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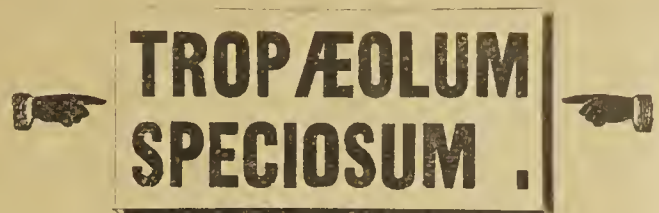
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Journal of Horticulture.

THURSDAY, JULY 5, 1900.

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Knots.

"Thy curious knotted garden."—Shakespeare.



TODAY there is a faintly perceptible longing after the quaint and long-forgotten garden ways and garden designs of mediæval times, and it appears to be quite within the

bounds of probability that a revival of

the knot may occur at any moment. The decadent carpet bedding has been to some extent identified with the knot, but the

dissimilarities of the two are, or were, more pronounced than any likeness they possessed in common, and if knot gardening should again become popular, something different from the carpet bed must obtain.

The knot was already known in England early in the sixteenth century, though it would seem to have had a French origin. For about a hundred years it occupied a place in the best gardens, but by the beginning of the succeeding century it began to be considered as vulgar and common, though it lingered on for yet another hundred years, dying out, as it originated, in hazy obscurity. The knot was constantly referred to by writers who flourished during the middle period of its sway; but it will be remembered that Bacon belittled it, and also Milton, who found no place for it in his primeval garden—certain indications both of its falling into disrepute.

In its earliest conception the knot would be, no doubt, a simple composition, such for instance as that which appears in "The Profitable Arte of Gardening," or in Lawson's "Orchard," which shows a circle, intersected by two triangles interlaced. Equally simple in design is the series of knots in "The Countrie Housewife's Garden." A little earlier than the last named, Surfleet's "Countrie Farme," and also Markham's edition of the same work, contain elaborately designed examples of knots, some of them enclosed by borders which corresponded in character. These, however, are merely copies, or perhaps impressions, from a much earlier French work, and consequently are largely valuable only as a means of

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comparison with those of English design, and as exhibiting the backward state of insular knot gardening.

The superiority of the French in this style of garden decoration is brought out still more clearly in the cuts to be found in de Serre's "Theatre d'Agriculture" (1600), the same date as the earliest issue of Surfleet's book, in which initial letters, foliations, and animals' heads form parts of very intricate designs. Several were plans of beds in existence at Fontainebleau, St. Germain and other gardens, and are good examples of the work of Claude Malet, celebrated as the gardener to Henry IV. A magnificent work, earlier than the above by some years, portraying the chief castles of France, shows that the gardens of the period were entirely occupied by these elaborately involved creations of the gardener's art. Though mottoes, dragons, birds and animals were later introduced into English gardens, there is no indication that the style at any period was carried out in the extravagant fashion indulged in across the Channel.

It is unfortunate that Hill says little or nothing of the plants employed in knot work, "the which may be set either with Time or Isope," conveys the gist of the details in "The Profitable Arte." Surfleet and Markham, however, give detailed directions for laying out the beds, and also capital lists of plants suitable for the purpose, and it is not a little striking that aromatic or sweet scented plants or flowers are almost solely recommended. Nothing indeed is more charming about these old gardens than the high position occupied by sweet smelling vegetation. If a plant was devoid of scent in foliage or flower, or unendowed with some medicinal or other quality, it was coolly set aside with the remark that the writer knew of no reason for including it in a garden save that it bore a flower! There was indeed no dislike to a plant because it possessed a beautiful flower, but the sense of smell seems to have been educated and provided for in a manner rarely considered in furnishing present day gardens. Says one writer: "What more delightsome than an infinite varietie of sweet smelling flowers? decking with sundry coloures, the greene mantle of the earth. Colouring not onely the earth, but decking the ayre, and sweetening every breath and spirit."

It is not wonderful, therefore, that of plants for knots "the most fit and meet are penniroyall, lavender, hyssope, wild thyme, rosemarie, thyme, sage, marierom, cammomile, violets, daisies, basil." "Lavender and rosemarie" were specially commended for edgings; Box, because it possessed a "naughtie" smell, was not to be employed, though no doubt it was to some extent. It appears to have been commonly the practice to use only two kinds of plants in the composition of knots, the lines forming the pattern being all of one sort, as Lavender, and the spaces with some dwarfer plant, such as Pennyroyal. The borders with which knots were occasionally surrounded were planted in the same manner, but with a greater variety of plants. All, it need hardly be added, were kept closely trimmed.

That knots surrounded with borders were ever popular in England is now difficult to determine—the probability is that they were not. But the practice of forming a knot in the centre of a square plot of ground was undoubtedly common. The space enclosed was sometimes so large that Roses, Gooseberries, "or anie other fruit or flower that groweth shrub-wise, or not above two or three foot above the earth," were included in the ground unoccupied by the knot itself. The square was shut out from the rest of the garden by means of a quickset hedge of Thorn, Privet, or Box, kept trimmed to a height of 2 or 3 feet, and in this hedge fruit trees were sometimes planted, or the boundary might be composed of "Prympe, white thorne, Eglantine, and sweet briar" mixed together and interlaced through a lattice-work framework, and duly cut as the other hedge. A still more elaborate fence was that "carrying the proportions of Pyllasters. Flowers, Shapes of Beasts, Birdes, Shippes, &c." The knot in all these instances formed the chief and central object of what may be not inappropriately termed a garden within the garden. The flat maze, with dividing lines of Lavender and its paths of Camomile, was also treated in the same manner.

Here it may be remarked that some modern writers on old gardens have too hastily assumed that tall-growing plants in

variety—e.g., Sweet "Sissely," "Go-to-bed-at-Noone," Tulips, Roses, Thorns, and such-like, were employed in the knot itself. The fact that none but evergreen subjects was admissible, and that the stronger-growing plants used for edgings, as Rosemary and Lavender, were cut with the "ordinarie sheeres," and the "smaller and lesse hearbes" with "sheeres like those which Taylors use," would be sufficient without the details of the kinds of plants and methods of planting to show how incorrect that is.

Figures, foliations, and mottoes came to be shown by means of coloured earths and sands, and the latter was also used for the little alleys which in due course came to be employed instead of dividing lines, and thus it occurred, no doubt, that the knot became absorbed in the *parterre*, a French name indicative of a thing divided. *Parterres*, it may be noted, were already common in France towards the end of the sixteenth century.

Those, therefore, who have a hankering after old forms of garden design, and who would like to introduce a knot into their grounds, may be assured that simple combinations were the most ancient in use, that aromatic evergreen vegetation was almost solely employed in their composition, and if an extension of the ground necessary to the knot proper be desired, the space may well be enclosed by means of a low, trimly cut hedge, and the unoccupied space laid out with other beds, to be filled with old-fashioned flowers, which, above all, ought to be primarily chosen for their "savour dulce."—B.

Carnations from Seeds.

QUANTITIES of Carnation plants are annually raised from seeds, which to those who need flowers for cutting is a most commendable practice. Apart, too, from the wealth of blossoms afforded, there is considerable interest attached to watching the unfolding buds of unknown colours. There are greater or lesser numbers of single varieties, according to the quality of the strain procured; and if these have no merit for vase use, their foliage can be cut with a free hand for associating with the double ones in floral arrangements, no other leaf growth being so fitting for the purpose. Those of marked character can be perpetuated from cuttings or layers.

This much can be said of seedling Carnations, that they are hardy, and survive cold weather when layered plants succumb to it subject to the same conditions. With choice named varieties growers provide frame room for carrying them safely through the winter, a course both justifiable and necessary. With seedlings this trouble can be dispensed with, and the plants as soon as they are of sufficient size and strength can be put out into their permanent position, either direct from the seed boxes, or later, when pricked out singly into others to gain strength of leaf and root. The state of the weather determines the course most necessary; when showery quite small seedlings may be put out into beds or borders duly prepared by digging or trenching and manuring. If the weather is ungenial, then an alternative course must be chosen.

There is no time to lose in ordering seeds for immediate sowing, which should in every case be conducted under glass shelter of some kind, without forcing, in boxes, pots, or pans. What is of much importance is the selection of a strain both reliable and choice. Unless this trouble is taken disappointment is sure to be rife when the flowering season comes round. In this there is not much to hesitate over, as most of the large houses claim the possession of unsurpassable qualities in the strain they offer. Many of the flowers may not come up to the florist's ideal in petal perfection and colour marking, but they serve the dual purpose of the border and house to an eminent degree.

I have a lingering memory of the great masses of flowers that used to be grown at Longleat by the late Mr. Pratt, and many admiring visitors would gladly have availed themselves of a stock of cuttings to take away with them. During their season these seedling border Carnations were one of the features of the garden, and Longleat, it must be said, possessed many in flowers and fruits.—R. A.



Brassias.

ORCHIDS that produce bright showy flowers are the most likely to become popular, and the absence of bright colours probably accounts for the unpopularity of Brassias. These Orchids, nevertheless, have many good points. They last a long time in bloom, are easily grown,

with purple streaks and spots. *B. verrucosa* is a distinct and attractive species, which does well in a cool house. The flowers are greenish white, the lip pure white, with the exception of the singular warty protuberances that are thickly produced upon it.

Burlingtonias.

Though by no means difficult to grow, Burlingtonias are not always seen in as good condition as is desirable. A frequent cause of failure is potting the plants in a mixture of peat and moss, such as used for pseudo-bulbous Orchids generally. They are also often kept too dry at the roots and in the atmosphere both during the growing season and in the winter. Frequently, too, white scale robs the plants of their strength. With such species as *B. decora*, which produces its bulbs



FIG. 1.—BRASSIA BRACHIATA.

and produce their flowers very freely. These latter are also quaint in appearance, and, considering the habit of the plants, are of comparatively large size. The cultural requirements of Brassias are of the simplest and most ordinary description. Grown in an intermediate temperature with peat and sphagnum for a rooting medium, abundance of water while growing, and a decided period of rest, they will be a source of satisfaction and pleasure.

B. antherotes is a fine species, possibly the best in the genus. The healthy vigorous spikes bear a large number of flowers. The sepals are long, slightly twisted, yellow. The petals are shorter, similar in colour, but with a dark brown blotch at the base. The lip is yellow with chocolate markings. Each flower is upwards of 6 inches across. *Brassias Giroudeana*, *brachiata* (fig. 1), and *Lawrenceana* are all very much alike. The flowers are a pale greenish tinge at first, deepening in colour with age to golden yellow spotted and barred with brown. They usually flower in order as named. In *B. maculata* the sepals and petals are more equal in length. The lip is large and prominent,

at some distance from each other upon the rhizome, it is a mistake to allow them to ramble away year after year, getting farther and farther from the compost. Burlingtonias require a rooting medium similar to that used for distichous-leaved Orchids—viz., a layer of sphagnum over, thorough and effective drainage, and a few pieces of potsherd or charcoal mixed with the layers of moss. They all thrive in baskets or shallow pans suspended from the roof in the Cattleya house. When newly imported *B. decora* and its varieties should be placed in pans filled with crocks, no moss being given at first. After one set of pseudo-bulbs have been made fill up with moss and charcoal to the usual convex mound. The rhizome should then be notched half way through between each bulb, and these disposed equally all over the surface by tying or pegging down. Light surfacings of moss should be given yearly; any pseudo-bulbs that are spent must be removed and their places filled by pegging down the last year's growth. *B. candida* and *B. fragrans* are more compact in their growth, and do not need this special treatment.—H.



Rose Show Fixtures in 1900.

- July 7th (Saturday).—Crystal Palace (N.R.S.).
 „ 10th (Tuesday).—Harrow and Wolverhampton.†
 „ 11th (Wednesday).—Brockham and Formby.
 „ 12th (Thursday).—Brentwood, Salterhebble, Woodbridge, and Eltham.
 „ 13th (Friday).—Ulverston.
 „ 14th (Saturday).—Manchester.
 „ 17th (Tuesday) Carlisle.
 „ 18th (Wednesday).—Cardiff. *.
 „ 19th (Thursday).—Birmingham (N.R.S.) and Helensburgh.
 „ 21st (Saturday).—New Brighton and Newton Mearns.
 „ 24th (Tuesday).—Tibshelf.
 „ 25th (Wednesday).—Newcastle-on-Tyne † and Belfast.*
 „ 26th (Thursday).—Bedale.

* Shows lasting two days. † Shows lasting three days.

Fragrant Roses.

ONE of the chief charms of Roses is the possession of fragrance. The majority of Teas have a peculiarly delicate odour, which constitutes one of their best characteristics, and they are largely grown on account of this. Some are more heavily fragrant than others, one of the best being that beautiful blush pink Tea Rose Adam, the fragrance of which is delicious. Countess of Pembroke, a Hybrid Tea, is beautifully scented. Lady Zoé Brougham, a chamois yellow Tea, is another fragrant variety. So also are Luciole, salmon yellow; Jeanne d'Arc, clear yellow, and Kaiserin Augusta Victoria, rosy yellow. Others possessing fragrance are Jean Pernet, Madame Leon Fevrier, and a new variety named Daisy. Among the Hybrid Perpetuals Bessie Johnson is very sweet, Captain Hayward possesses an excellent fragrance, Harrison Weir is sweet scented, Marchioness of Londonderry, Madame Knorr, Madame Verrier Cochet, Prince de Beira, Madame Chabal, Firebrand, and Jules Barigny are all fragrant.—H. T.

Budding Roses.

STANDARD ROSES are budded on shoulders or side branches starting from the upper parts of main Brier stems. The working or inserting of the buds is carried out as near to the main stem as possible. Dwarf Roses, whatever the kind of stock employed, whether Brier, De la Grifferaie, or Manetti, should be worked upon the crown of the roots, at the bottom of the main stem of the stock, even if this part is below the soil. Budding must be effected on dwarfs with established stocks, or those that were placed in position the previous autumn.

Successful budding can only be insured when the wood of stocks as well as that containing the buds is in the right condition, and the sap is flowing freely to assist the easy raising of the bark. One indication of the right condition of the buds for insertion is when the thorns snap off easily, being brittle and not tough. The best buds that can be obtained may be found on shoots below an expanded bloom. Should the sap not be active the buds will not take successfully, and it is a good plan to water the roots the day or evening previously.

The preparation of the bud is important. Select a suitable growth from which to obtain the bud. A shoot of medium strength bearing a bloom of exceptionally good form and colour for the variety, or one that has just perfected such a bloom, and from which it has been cut, will do very well.

In cutting out the bud use a sharp knife, inserting the blade half an inch above the bud, running it down the shoot, but not deeply, until it passes below the bud. Do not bring the knife clean out, but when it reaches immediately below the bark remove the bud and its attendant wood, stripping off a short length of bark with it. It will be boat-shaped, and have a tail of bark which will be found useful in removing the small portion of wood which is necessarily found attached to the bud. If not done previously the leaf should be cut off to within half an inch of bud. All that is required for insertion is the bud, the bark surrounding it, and the little seat or cushion immediately below the bud on the under side. In removing the wood from the bud bend back the bark a little, and with the point of knife lay hold of it firmly. Then give a gentle jerk and it should come out freely. If it leave a hollow eye under the bud the wood has come out too well and brought the seat or cushion with it, and the bud will not

take, hence it is useless to insert it, but if the cushion remain then the bud is all right. Cut off the long strip of bark before inserting the bud.

The next process is the preparation of the stock. Make an incision in the latter 2 inches long, cutting just through the bark, but carefully avoid causing injury to the young wood below. Commence the cut as near as possible to the main stem of the Brier, but on the side shoot when budding standards: on dwarf stocks as near as possible to the roots. At the upper end of the long incision cut a slight cross, to facilitate the raising of the bark when inserting the bud. To lift the bark insert the handle of a budding knife, loosening it on each side. The bud may then be inserted, working it down to the bottom of the cut gently but firmly. The best tying material is raffia grass, which may be drawn tightly without injuring the bark. Work it above and below the bud, and in about three weeks loosen the ties all round. If all goes on well, the buds will be seen to have taken by their plump appearance. If they do not take, they will turn black and decay. A healthy bud, however, should remain dormant until spring, therefore the shoot on which the bud is inserted may be allowed to extend at will. If necessary to shorten them, it must not be closer than 6 inches, so that there is an outlet for surplus energy and vigour other than pushing the newly introduced bud into growth the first season.

Budding should be carried on when the weather is moist, as it is important the operation be done without any drying up of the parts, either of stock or buds. If done quickly there is a better chance of the buds succeeding. Favourable periods in July may be chosen for the work, but if all the conditions for success exist in August, the process may be carried out in that month as well.—ROSARIAN.

Catherine Mermet and its Sports.

This delightful Tea-scented Rose is regarded quite a perfect type in shape of flower, and its colour, a light rosy flesh, is a tint admired by most persons. The plant in growth, too, is free and branching, a habit which is adapted to pot culture. To see this, and, in fact, all Tea Roses in their greatest beauty, is, to my mind, under glass. Here the petals open without spot or flaw, which one single shower outside will bring, and the flowers develop into a size rarely seen in the open air.

Sent out in 1869, Catherine Mermet has had a long innings, and what is more remarkable, it is the parent of a race of very fine varieties. The first, I think, of its sports is The Bride, which originated in America. It is white, with just a lemon tint, and out of doors exhibits more or less colour in the outer petals. Under glass, however, it is very beautiful, retaining that superb form of the parent in a marked degree. Bridesmaid, another American sport, exhibits a deeper pink colour than the parent. This is a charming variety which has not yet had time to become thoroughly established, for it takes several years for a new sort of merit to get strong, owing to the tax upon its constitution by rapid propagation.

Muriel Graham is the latest of the Catherine Mermet sports, and probably the best. Cream flushed rose describes its tints, which are delicate and rich. This variety-originated in a Surrey garden, and was distributed in 1896, so that it has had little time to become known. We have noted some lovely blossoms of this variety under glass recently, and for pot culture it should be largely cultivated. For the production of exhibition blooms in summer the above four splendid Roses, like the majority of Tea scented types, are best budded on Briar stems. Away from the ground the growth seems stouter; and the blooms too can be more readily protected from rain and wind; work which is absolutely necessary when such delicately tinted flowers are grown in the open air.—S.

Lilium parvum.

ONE of the most attractive of the small-flowered Lilies is the Californian Lilium parvum (fig. 2). It has stems usually 2 feet high, but when very strong it sometimes greatly exceeds that height, though in its native state it is frequently not more than 1 foot high, so that it must be considered as one of the dwarfest Lilies grown. The flowers are small, open, and nodding; yellow or orange, varying somewhat in tint, and with numerous small dots on the perianth divisions. Like other Lilies it requires to become well established before it develops its best characters, and for a time after planting the bulbs only weakly growth need be expected. When, however, it has taken to the soil, and the situation is favourable—moist without being wet, and moderately sheltered—it will grow rapidly. In contrast with *L. auratum* or *L. lancifolium*, such small-flowered species as *L. parvum* cannot claim a great amount of attention, but the graceful habit and bright flowers render it a favourite in gardens whenever it is well grown.

The Royal Horticultural Society.

The New Chiswick—The Bye-laws.

SINCE your correspondent, "A Fellow," wrote the letter which appears in your issue of the 21st ult., the Council have issued the proposed new bye-laws, which are doubtless by this time in the hands of all the Fellows. The Council have thus shown their readiness to meet a wish very strongly expressed at the last general meeting—namely, that those who are asked to vote on such an important matter should first have an opportunity of studying the various points submitted to them. May we not hope that the Council will also, before any general meeting is called to decide for or against a New Chiswick, take the Fellows into their confidence in a like manner, and explain in detail any scheme which they may be asked to vote for? Since the last general meeting we have looked in vain for any official utterance from the Council.

It is true that one or two writers have assured us that the Council from the first intended to follow a certain course of action, or never at any time thought of taking some other course; but whether these writers were correct or incorrect, we cannot suppose it is by such means the Council would make its policy known.

After all that has been said in favour of retaining Chiswick we may not unreasonably ask the Council whether they still consider it impossible to carry out there such garden work as may be actually indispensable. If this in their opinion is impossible, then we may hope the Council will state very definitely the nature of the work they propose to undertake in the New Chiswick, and also the manner in which this work is to be conducted, as well as the cost to the Society of carrying through any scheme they may recommend. On the first point almost all who have written in the horticultural papers are unanimous in thinking that Chiswick can very well be made to fulfil the necessary requirements of the Society.

As regards the nature of the work to be undertaken in a New Chiswick, we are absolutely without any detailed information. We can only, therefore, conclude that whatever might be attempted would be on similar lines to those followed at Chiswick, and consequently might be attended with results equally disappointing; in fact, it would be Chiswick on a larger scale, though very possibly the plants grown might be more healthy. We are equally in the dark as to the means by which it is proposed to convert a "neglected" 50-acre farm into a garden worthy of the Royal Horticultural Society; nor have we any official detailed estimate of the outlay which such a gigantic undertaking would involve. As "A Fellow" justly observes, it is definite information upon these and kindred matters that the Fellows need, and without which they very naturally refuse to vote in favour of a scheme which must in any case absorb the energies of the Council and officers of the Society for some years to come.

In common with all who have yet commented upon the new bye-laws, I regret exceedingly that the Council have not withdrawn the proposal to revert to the discredited system of voting by proxy. It has been suggested that this retrogressive step is to be taken to meet the wish of country Fellows, but if so, why is it that none of those for whose benefit the proposal is made have expressed their wish publicly? I can recall no single case where any Fellow living at a distance from London has asked for the right to vote by proxy. And, as has been very wisely pointed out, the Council must in the nature of things vary from time to time in its composition, it is conceivable that a Council might exist at some future time which desired some change inimical to the best interests of the Society. As the proposed bye-laws now stand the Council in such a case would only have to agree that the matter was sufficiently important, then post to the Fellows at the Society's expense a statement embodying their own views, and a great majority of votes might thus be secured by proxy from those who had never judged the question for themselves and knew nothing of what might be said against the scheme. It must not be forgotten that without proxy voting no vote can be taken until those voting have heard the case carefully debated and had the arguments on both sides duly laid before them.

It has been mentioned by one or more writers that the present success of the Royal Horticultural Society is due to its having adopted and followed out a truly "horticultural" policy for several years past, instead of one consisting chiefly of holding shows and exhibitions, and that to insure a continuance of this success we ought to accept the Limpsfield scheme, thereby not only maintaining a "horticultural" policy, but a national policy, rather than one which might be called metropolitan. But in what way has the Society's policy during recent years been "horticultural" in any such sense as this? Has not the success been due to the fact—in a great measure at least—that the Council has wisely refrained from any cultural operations on a large scale, thereby enabling the various Committees which meet at the Drill Hall to attract to the fortnightly shows the large number of exhibits, which, arranged under the able direction of Mr. Wright, have made these shows so increasingly popular? And is it not the popularity

of these exhibitions, as well as of the Temple Shows, which has raised the number of Fellows to a point never previously reached in the history of the Society? Have these new Fellows joined because of any so-called "horticultural" policy carried out at Chiswick or elsewhere? To embark on such a "horticultural" or "cultural" policy now would be an entire departure from the policy which has conducted to the present success. It would, moreover, necessarily follow that the energies of those who have contributed to this success must be diverted into entirely new channels, for the existing officers of the Society could not undertake the conversion of the Limpsfield site into a garden, and still carry on their present arduous but successful work.

In what sense a garden at Limpsfield can be more "national" than an extension of the present policy of shows I fail entirely to see. In



FIG. 2.—LILIAM PARVUM.

one case we should have a more or less inaccessible garden in the south of England, in few if in any respects equal to the best private gardens in the country. In the other the Society would encourage horticulture throughout the kingdom by bringing together in some suitable building the finest products which the ablest gardeners of the day, professional or amateur, can grow.—ARTHUR W. SUTTON.

Scientific Committee, June 19th.

Rose leaves diseased.—Some leaves sent by Rev. H. C. Brewster of South Kelsey Rectory, were attacked by an æcidium. Mr. Plowright reports that it is "The æcidiospore of *Phragmidium subcorticatum*, formerly called *Uredo effusa*, pinque or *miniaturum* of older writers. These æcidiospores are often preyed upon by some mites, as in the

present case, which become tinged with the orange colour of the spores, which they eat. On some of the leaves the uredospores are beginning to appear."

Potato crop defective.—Mr. F. H. Kettle of King's Ford, Colchester, forwarded samples, of which he writes:—"The Potato crop in this district is a very uneven one, and various reasons are suggested for it. The specimens sent are Bressée's Prolific, and they are typical of plenty of others in the store room." The samples were forwarded to Mr. A. Sutton, who reports as follows:—

"In reply to your inquiry, it is quite certain that Mr. F. H. Kettle is by no means singular in his experience of Potatoes coming up very unevenly this season. We hear from all parts of the country that such is the case, and all varieties appear to be suffering more or less from the same cause. Professor Gordon, of the Cheshire Agricultural and Horticultural School, Holmes Chapel, wrote to us recently on the same subject, saying that many of his Potatoes had only formed very weak spindly sprouts, no thicker than a knitting needle, and there were a great many blanks in his crop; and his experience is the same as ours, that many of the tubers are quite sound and hard in the ground where they have made the thin weakly sprouts complained of.

"It is remarkable that tubers which were 'boxed,' and very carefully sprouted before being planted, are just as much affected as those which were planted before any sprouts were made by the sets.

"Another interesting fact noticed on comparing the many hundreds of samples in our trial grounds is that the only case where Potatoes have started well, with strong and healthy growth, are those which were grown last year in Scotland, where the climate and soil are comparatively moister than in England.

"The only conclusion I can arrive at is that in consequence of the excessive drought last year the Potatoes ripened prematurely, and owing to this the sets are not able to develop a healthy and vigorous growth this year. We find this especially the case with Potatoes which were grown last year on hot gravelly soils. The tubers affected with us in many cases produced shoots at the crown of the set, but these died off, and the later growth is being made from weakly shoots put forth by the side buds or eyes near the stem end of the set.

"I can think of no possible remedy, and certainly in our experience we can remember no season when crops were similarly affected on so large a scale.

"Mr. H. S. Daine of Woolfall Hall, Huyton, Liverpool, mentioned at the York Show that his crop was suffering in the same manner, and he had sent tubers to Professor Marshall Ward for examination, and would let us know his reply."

Carnations decaying.—Plants which had decayed at the base were received from Mr. R. Keeble of The Pines, Horsall, Woking. Mr. Jas. Douglas reports upon them as follows:—

"It is not an uncommon occurrence to find that Carnations grown under artificial conditions will die as the example enclosed has done. There is no disease, the roots have died owing to over-watering, or else, probably, the plants were allowed to become overdry; in this case the delicate root hairs are desiccated, and thus rendered useless. Too much water is then poured in, which makes matters worse. All plants suffer from this, and some die. Moreover, the dried peaty soil is unsuitable for Carnations. In my own large collection we lose a few every year; the roots perish from some cause not always easily determinable, but I regard it as a matter of watering. The use of artificial manure in the soil will cause deaths in Carnations when grown in flower pots. I dropped the use of it because of this."

Grapes scalded.—Mr. H. Pethick, Trewartha, Weston-super-Mare, sent samples, upon which Mr. Douglas reports as follows:—"The Grapes sent are scalded, caused by insufficient ventilation and probably too much moisture in the house. It occurs if the Grapes are entirely shaded by the leaves, and the Grape that suffers most from scalding is Lady Downe's Seedling. The Vine may be flourishing in every respect, but that does not matter; and it always happens when the berries have just passed through the stoning period previous to colouring. While stoning is going on, that is the harding of the seeds, the berries do not increase in size, they remain stationary for five or six weeks. At the end of that time the seeds have come to their full development, and the berries increase rapidly in size. This is the time that scalding will happen. It can easily be prevented by throwing open the ventilators to their full extent in hot weather; ventilation to a less extent should also be given at night. I must also add that the berries will scald even if the sun does not touch them."

Rose, variegated.—Mr. G. Rawlings sent specimens of Rose leaves variously spotted with yellow; some leaflets being entirely yellow-orange in colour. He writes as follows:—"The leaves sent are from a tree of Baroness Rothschild, a portion of which came variegated last year. I budded a few buds on some named varieties, from which those sent have been cut. They are much more highly coloured than those on the original tree."

Pears, blackened.—Some fruit decayed, black, and attacked by fungi were sent to Dr. W. G. Smith for examination. They were received from Rev. H. W. Fletcher, Bicker Vicarage, Boston.

Chiswick, June 28th.

A MEETING of the Fruit and Vegetable Committee was held in the gardens at Chiswick on Thursday, June 28th, to examine early Peas and some Lettuces. Present: Mr. W. Marshall (chairman); and Messrs. Basham, Barron, Esling, Willard, Wythes, A. Dean, Kelf, Mortimer, J. Smith, Gleeson, and Woodward. Some forty-five stocks of Peas were seen, but only a few were ready. Growth had been very fair, but the porous soil at Chiswick hardly does full justice to Peas.

The committee first took special note of nine varieties, and after comparing one with another decided to give awards of merit to Edwin Beckett, 3½ feet in height, pod long, finely filled, indeed the best filled of the whole stock, and a heavy cropper. This was without exception the most advanced Pea of the trial; also to The Major, 4 feet in height, pods produced in great abundance, and evidently showing great continuity of cropping; and Monarch, 4 feet, pods of good size and colour, and a capital cropper. Other varieties of promise are to be seen on July 10th. Several Lettuces, both Cabbage and Cos, were seen. Three marks were given to a good stock of the old curled Malta, and a first rate stock of All the Year Round from Harrison of Leicester. A good stock of Paris Green Cos was not yet ready. During the day the sky was much darkened by a visitation of London smoke, which did not add to the enjoyment of the committee's visit.

The Fortnightly Committee Meetings.

Drill Hall, July 3rd.

THE Drill Hall on Tuesday was almost entirely filled with exhibits, this being largely accounted for by the fact that the society was holding its special Rose Show. The queen of flowers occupied several tables in the centre of the hall, the outer tables being devoted to miscellaneous flowers, plants, and fruits. Orchids were not numerous.

Fruit Committee.

Present: H. Balderson, Esq. (in the chair); with Messrs. H. Esling, Jas. H. Veitch, E. Shaw Blaker, M. Gleeson, J. Cheal, G. Kelf, A. Dean, W. Bates, S. Mortimer, T. Coomber, E. Beckett, G. Wythes, J. Smith, G. Reynolds, W. J. Empson, W. H. Divers, and J. Willard, with the Rev. W. Wilks.

Mr. Thomas Coomber, gardener to Lord Llangattock, The Hendre, Monmouth, showed a collection of fourteen Queen Pines. The fruits were in most excellent condition, and were evidently the result of skilful culture (silver-gilt Knightian medal). Mr. W. Taylor, gardener to C. Bayer, Esq., Forest Hill, contributed Peaches Crimson Galande, Dr. Hogg, Dagmar, and Early Albert, and Nectarines Dryden, Lord Napier, and Advance. Though not large, the whole of the fruits were beautifully coloured (silver Banksian medal). Mr. E. Beckett, gardener to Lord Aldenham, Elstree, showed Pea Edwin Beckett, a splendid variety, with large pods filled with peas of excellent colour and flavour.

Strawberries in variety were shown by Messrs. Laxton Bros., Bedford. The varieties included Fillbasket, Maincrop, and St. Joseph. Mr. J. Hudson, V.M.H., gardener to L. de Rothschild, Esq., Gunnersbury House, exhibited a box of Strawberry British Queen in exceptionally good condition, with Cherries Bedford Prolific, Empress Eugénie, Early Rivers, Frogmore Bigarreau, Black Eagle, Large Black Bigarreau, St. Margarets, Florence, Emperor Francis, Bigarreau Noir de Schmidt, Bigarreau Noir de Guben, and Bigarreau Napoleon (silver Knightian medal).

A splendid box of Strawberry Veitch's Prolific was staged by Messrs. J. Veitch & Sons, Chelsea; the fruits were of fine shape and colour. The same firm sent the new Pea Acme, a variety that produces its well-filled pods very freely. Mr. G. Kelf, gardener to Miss Adamson, Regent's Park, sent grand Royal George, Dr. Hogg, and Dymond Peaches; the specimens were large and grandly coloured (silver Knightian medal). Mr. J. Budd, Romney, sent a seedling Nectarine, much resembling Pineapple; and Mr. J. P. Jupp, Walton-on-Thames, Strawberries and Peas.

Messrs. T. Rivers & Son, Sawbridgeworth, contributed magnificent Thos. Rivers Peaches and Victoria Nectarines, with Early Rivers Cherries and The Czar Plums. All the specimens were from pot trees (silver Banksian medal). One or two other exhibitors sent Melons. Messrs. Barr & Sons, Covent Garden, exhibited Cauliflower Barr's Best of All, and Peas Boston, Duke of York, Pride of the Market, Telephone, Herald, Empress of India, Stratagem, Alderman, and Capt. Cuttle.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); and Messrs. R. Dean, G. Reuthe, J. Jennings, C. E. Pearson, J. Walker, C. E. Shea, E. H. Jenkins, W. J. James, C. J. Salter, J. Hudson, H. B. May, and E. T. Cook.

Messrs. H. Cannell & Sons, Swanley and Eynsford, showed a group of single and double tuberous rooted Begonias. There were numerous varieties above the average of excellence; while the colours were well diversified (silver Banksian medal). Messrs. Barr & Sons, Covent Garden, were represented by a collection of hardy flowers in variety. There were Irises, Lilliums, Pæonies, Gaillardias, Calliopsis, and many others (silver Banksian medal).

Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, arranged a collection of 100 varieties of hardy flowers, amongst which were many of great beauty (bronze Flora medal). Messrs. J. Veitch & Sons, Chelsea, showed *Rose Electra*, *Cytisus schipkaensis*, *Escallonia Phillipiana*, *Polygonum chinense*, *Andromeda speciosa cassinæfolia*, *Rosa Wichuriana variegata*, *Magnolia macrophylla*, *Clematis erecta* and *Deutzia californica*.

Messrs. Sutton & Sons, Reading, sent Sweet William Pink Beauty, an exceptionally excellent variety, of which the colour is described by the varietal name. Mr. Percy Waterer, Fawkham, arranged a collection of Sweet Peas, including many of the leading varieties, in the best of condition (bronze Flora medal). Mr. B. Ladhams, Shirley, Southampton, showed a splendid group of *Gaillardias* and *Campanulas* (bronze Flora medal).

Mr. M. Prichard, Christchurch, displayed a good collection of hardy flowers; although the light was bad the collection appeared bright and attractive. The chief examples were bunches of *Aconitum album*, *Lilium umbellatum* Cloth of Gold, *Clematis erecta*, *Dianthus Napoleon III.*, *Scabiosa caucasica* and its white form, and a clump of *Pæonia Marie Lemoine* (silver Flora medal). From Messrs. T. S. Ware, Ltd., Feltham, came a collection of hardy flowers and rock plants. Most conspicuous were *Eremurus Bungei*, a yellow form; *Lilium Browni*, *Campanulas* in variety, *Saxifragas notata*, *cochlearis*, and *lantoscana superba*. The dwarf *Campanulas* were also a good feature (silver Banksian medal).

Messrs. Kelway & Son, Langport, contributed a fine display of *Delphiniums* and *Gaillardias*, also a few *Iris*s. The *Delphiniums* were fresh, and made a capital display. The chief varieties were *Eugène Sandow*, *Norah Green*, *Delicacy*, *J. S. Sargent*, *Albert Edward*, *W. B. Child*, and *Sir Malcolm Fraser*. The *Gaillardias* included *Jeddah*, *The Sirdar*, *The Strand*, and *St. Blaise* (silver Flora medal). An interesting exhibit was that from R. Wallace & Co., Colchester, which consisted chiefly of a good collection of *Lilium Thunbergianum*, *L. japonicum*, and *L. Hansonii*; *Calochorti citrinus Vesta*, *atro-violacea*, and *pictus*; *Iris Monnieri*, *gigantea*, and a few English varieties. The *Alströmarias* were also attractive (silver Banksian medal).

Messrs. W. Paul & Son, Waltham Cross, arranged a grand display of garden and decorative *Roses*; the majority were arranged in baskets, so that a good clump of each variety could be seen. The group of decorative varieties appeared to interest the rosarians present. The best of them appeared to be *sulphurea*, a pale yellow rose with coppery foliage; *Alexandra*, a sweetly scented variety, buff shaded with deep apricot; *Salmonæa*, and *Chameleon*, while of the older forms *Madame Eugène Resal*, *Empress Alexandra of Russia*, *l'Idéal*, *W. A. Richardson*, *Souvenir de Catherine Guillot*, *Madame Abel Chatenay*, *Grace Darling*, *Madame Hoste*, and *Marie Van Houtte*, while a box of the new Hybrid Tea *Tennyson* and *Corallina* made a pleasing display (silver-gilt Banksian medal). Messrs. Veitch & Sons contributed an excellent display of Sweet Peas.

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, De Barri Crawshay, J. G. Fowler, J. Colman, W. Cobb, C. Winn, H. T. Pitt, T. Rochford, J. Jaques, E. Hill, W. H. Young, H. A. Tracey, H. J. Chapman, H. Little, and H. M. Pollett.

The only group of Orchids was one of conspicuous excellence from Messrs. J. Veitch & Sons, Ltd., Chelsea. This was arranged on the end table, the Orchids rising from a groundwork of Maidenhair Ferns. Amongst others noted were *Cattleyas Mendeli*, *Warszewiczii*, *Mossiiæ* and *Warneri*; *Lælio-Cattleyas Canhamiana alba*, *Canhamiana*, *Wellsiana*, *eximia*, and *Aphrodite*; *Lælias Digbyana* and *purpurata*; *Oncidium Lanceanum* and *varicosum Rogersii*; *Epidendrum vitellinum majus*, *Cypripedium ciliolare*, *selligerum majus*, *Lawrenceanum*, and *Mastersianum*; *Thunia Veitchiana superba*, *Lycaste aromatica*, several *Odontoglossums*, and a splendid pan of *Cypripedium superbiens* (silver-gilt Flora medal).

Exhibitors of a few Orchids included Messrs. Paul & Son, Cheshunt, who showed *Orchis foliosa maculata*; Mr. W. H. Young, Orchid grower to Sir Fred Wigan, Bart., East Sheen, *Sobralia Wiganæ*, *Lælio-Cattleyas Wiganæ* and *Henry Greenwood*; Mr. T. R. Cuckney, Gravesend, *Ophrys apifera*; Mr. J. Colman, Reigate, *Odontoglossum crispum* Gatton Park variety; Mr. De Barri Crawshay, Sevenoaks, *Cattleya Mendeli rosefieldensis* and *Lælia tenebrosa rosefieldensis*; Mr. A. J. Hollington, Enfield, *Cypripedium General French*; Mr. J. T. Bennett Poë, Cheshunt, *Broughtonia sanguinea*; Mr. J. G. Fowler, *Cypripedium Curtisi* × *præstans*; Mr. J. W. Potter, Croydon, *Odontoglossum crispum* Lady Jane; Dr. J. P. Davies, Maidstone, *Cattleya granulosa aurea*; and Messrs. H. Low & Co., Bush Hill Park, *Cattleyas Mossiiæ Dicipleno*, *Duke of Teck*, and *Reineckiana*.

Certificates and Awards of Merit.

Delphinium Blanch Fitzmaurice (Kelway & Son).—A fine single flowered variety with bright blue flowers (award of merit).

Heliotropium Picciola (J. Hudson).—A grand variety with fragrant purple flowers (award of merit).

Lælio-Cattleya Henry Greenwood superba (W. H. Young).—This is a superb variety. The sepals and petals are rich rose, and the front of the lip deep velvet crimson. The inner portion is soft primrose, and the wavy margins of the side lobes bright rose (first-class certificate).

Lælio-Cattleya Wiganæ (W. H. Young).—This is from a cross between *L.-C. Gottoiana* and *Cattleya Mossiiæ*. The sepals are deep rose flesh, and the petals rose flushed with purple. The lip is purple crimson (first-class certificate).

Magnolia macrophylla (J. Veitch & Sons).—A superb *Magnolia* that is large flowered as well as large leaved (first-class certificate).

Melon Free Chase Scarlet (W. Meads).—A large fruit. The flesh is scarlet, and the flavour is very good (award of merit).

Nectarine Lockesley Hall (J. Budd).—This somewhat resembles Pine-apple; it is of excellent flavour (award of merit).

Pea Edwin Beckett (E. Beckett).—A large, straight podded variety of the first excellence (first-class certificate).

Bedding and Pillar Roses.

At the afternoon meeting of the Royal Horticultural Society, held in the Drill Hall at three o'clock, Mr. George Paul, V.M.H., contributed a most admirable paper on the above subject. It would have been impossible to select a more popular topic to discuss on the Rose Show day of the society, and it was apparent from the number of persons present, and their close attention to the essayist, that the remarks were particularly appreciated. That this section of *Roses* which has come to be known as the garden or decorative section is growing in favour there can be no doubt, and considering their beauty and the long period over which flowers may be had this cannot be a matter for surprise. Of one thing we are convinced, which is that they will never be more largely grown than their many good qualities justly entitle them to be.

Granting, then, the value of this phase of Rose culture, we must also acknowledge Mr. Paul's ability for handling such a subject. For more years than many people care to remember, Mr. Paul has been closely identified with Rose growing, and having an exceptionally complete collection of these *Roses* gives him a peculiar grasp of his topic. His remarks on the best *Roses* for beds, hedges, terraces, and pillars, both in respect of varieties and the treatment to which they should be subjected, were exactly such as would be calculated to widen the love for this most interesting section of the queen of flowers. Large numbers of Fellows will look forward to the publication of this paper in the *Journal of the Society*, as it was impossible, owing to the incessant din prevailing in the hall, for more than the veriest outlines to be properly grasped. Mr. Paul illustrated his remarks with some splendid bunches of garden *Roses*, and was most heartily thanked at the close of the essay for the trouble involved in its preparation.

Special General Meeting, July 3rd.

THE proposed new bye-laws of the Royal Horticultural Society having been printed and distributed to the members, a special general meeting was held on Tuesday afternoon with a view to their confirmation with or without alteration. The chair was taken by Sir Trevor Lawrence, Bart., with whom were Sir John T. D. Llewelyn, Bart., Du Cane Godman, Esq., Frank Lloyd, Esq., Harry J. Veitch, Esq., Chas. E. Shea, Esq., Mr. Jas. Hudson, V.M.H., a representative from the Society's legal advisers, and the Rev. W. Wilks, secretary. In the body of the meeting, which was a comparatively large one, were observed many of the regular attenders at the Society's functions, and who are staunch supporters of the Society and its work. The secretary having read the notice convening the gathering, and the minutes of the previous general meeting, the business of the day was promptly turned to.

Sir Trevor Lawrence said that there was no necessity for him to detain the meeting with many remarks, but would suggest that the bye-laws be taken chapter by chapter and passed immediately, or discussed, as was the wish of those present. He would, however, remind them that the greatest care and attention had been given to the compilation of these bye-laws, both by the officers of the Society and by the lawyers.

As all the Fellows are now aware, the bye-laws are embodied in fifteen chapters, and of these, Nos. 1, 4, 5, 6, 7, 11, 12, 13, 14 and 15, were passed unanimously in the precise form in which they had been issued to the members, and wisely so, for they appear to be admirably drafted and perfectly clear to everyone.

In clause 6 bye-law II., the committee retains the right of declining to accept a nomination for Fellowship of the Society. To this Mr. J. Weathers took exception, and considered that the Council should not have the right to exercise such a prerogative. It was, however, pointed out by Sir Trevor Lawrence, Mr. Shea, Sir Alexander Arbuthnot, and others that such a clause was very desirable, and was in force in practically every scientific body and club. And rightly so, for there may be things in relation to a person which make it very undesirable that he should be made a Fellow; while it would be by no means desirable that these should be publicly discussed. Hence the power of veto in the Council's hands. Mr. Weather's motion was lost.

In clause 10, bye-law II., it was stated that while ladies might become Fellows they were not eligible for election as officers of the

Society or members of the Council. Mr. Alex. Dean took upon himself to champion the ladies, and was of the opinion that their exclusion from eligibility was not just or right. He pointed out that there were roughly 1000 lady Fellows, and considered they should have the same privileges extended to them as the mere men Fellows. Major-General Ince seconded the proposal for equality of the sexes, and on its being put to the meeting it was carried without dissent. The bye-laws will therefore be amended so as to permit of lady Fellows being elected on to the governing body, if such be the wish of those present at a general meeting.

Dr. Maxwell T. Masters proposed that the words "men of science" be substituted for the word "horticulturists" in the second line of clause 16, bye-law III., and this having been seconded was agreed to *nem. con.*

In bye-law VIII. were found the most important alterations, these having reference to clauses 45, 46, 47, and 48. In referring to the matter Sir Trevor Lawrence said, that in view of the opposition observable amongst the Fellows to proxy voting, the Council recommended the substitution of other clauses, of which the substance had been published through the gardening press (see *Journal of Horticulture* June 28th, page 547). The deviation from the forms there given were mainly those recommended by the Society's lawyers, and they were eventually carried, after having been twice read by the secretary, with an additional one, proposed by Mr. Arthur Sutton. This was to the effect that in the event of any motion being carried by less than three-fifths majority of the members present at a meeting, the minority of two-fifths should have power to demand a poll. It was impossible, owing to essential alterations, to get the text of these new bye-laws, which practically result in poll voting being substituted for the proxy voting, originally favoured by the Council. The whole will be published complete in the *Journal of the Society*, of which an issue may be looked for in the course of a week or two.

Mr. A. H. Smee recommended elucidatory additions to clause 67 of bye-law IX., and clause 76 of bye-law X, both of which were unanimously agreed to by the meeting.

The appendix embodying forms A, B, C, and D was carried without a dissentient voice.

A hearty vote of thanks to the chairman brought the proceedings to a close.

The Clematis.

THIS well known genus of the order Ranunculaceæ derives its name from the Greek word *Klema*, a Vine branch, and is also known in this country by the familiar name of Virgin's Bower. The species, according to the "Index Kewensis," number about 240, which are to be found mostly in the temperate zones of both hemispheres, so, with few exceptions, are hardy in this country. Only one species, *C. vitalba*, is a native of England, and it may be seen growing freely in chalky soils, rambling over hedges, bushes, and hanging cliffs, covered each autumn with its profuse tufts of grey plumose fruits, which gained it the name of Old Man's Beard.

Several other species are, however, familiar in our gardens—notably *C. flammula*, *C. montana*, and *C. viticella*, whilst we occasionally find the following: *C. erecta*, *C. integrifolia*, *C. paniculata*, *C. graveolens*, *C. coccinea*, *C. patens*, *C. lanuginosa*, *C. Fortunei*, and *C. Standishi*. This is, however, only a small choice of species which, in my opinion, deserve more attention; it would take up too much time to go thoroughly into the list, but those which strike me more particularly are the pretty early spring-blooming *C. calycina*, with its small, bell-shaped, yellowish-white flowers, marked inside with purplish spots; *C. alpina* and *C. sibirica*, the blue and white species from the Alps and mountains in Siberia respectively, so useful for the rockery, rootery, or pillar; *C. campaniflora*, with its fragrant small white or purplish-tinted flowers in June and July; the small yellow-flowered *C. Wilfordi*, which blooms profusely in August and September; *C. lathyriifolia*, the herbaceous perennial which produces its small white flowers in loose corymbose panicles from June to August; and the sweet-scented Chinese species, *C. Davidiana*, with its tubulose or Hyacinth-shaped flowers of bright blue disposed in elegant clustered heads during the month of September.

For size and beauty the species are mostly far surpassed by the hybrids, which have been mostly obtained from *C. patens*, *C. lanuginosa*, *C. Fortunei*, and *C. Standishi*, the last three being sent over by Fortune from China in 1851.

The first person to commence the hybridisation of the Clematis in a systematic manner was Mr. Anderson Henry of Edinburgh, who, in 1855, crossed *C. patens* with *C. lanuginosa*, from which he obtained *C. Reginae*, though, I believe, the honour of raising the first hybrid must be given to the late Mr. Henderson of Pine Apple Nursery, who, sixteen years previous to the aforementioned date, raised *C. Hendersoni*, but whether it was an artificially produced or chance hybrid I am unable to say.

The next person to take up hybridisation was my father, who, in 1858, raised the still popular *C. Jackmanni*, which he followed until

1877 with many other varieties still in cultivation. We are also indebted to Mr. Charles Noble, Messrs. Cripps & Son, Monsieur Simon Louis, Monsieur Lemoine, and many others for several fine forms, though from 1877 to 1894 successful hybridisation appears to have been almost at a standstill. This, I believe, was due to two causes; firstly, the want of using fresh blood, secondly, to the insidious "dying off" with which the Clematis has been affected for so long, rendering hybridisation not only disappointing but almost useless.

I am pleased, however, to be able to affirm, after several years' close study and experiments, that I have been able to a great extent to avert this calamity, the losses at Woking being now comparatively small, and all of these it would be obviously unfair to attribute entirely to the so called "dying off." I have noted from time to time the different opinions that have been given as to the cause of this "dying off," some persons believing it to be caused by injury from frost, some attributing it to too much nourishment, water, and heat; some considering it to be brought about by the bursting of the cells through excessive moisture, whilst others think it is caused by eelworms or fungus, and also to grafting. There is no doubt that frost is the cause of some deaths, and too much water and bad drainage to others, but I cannot agree with them that either of these is the sole cause of all the losses. My experience is that the plants mostly succumb during the summer months when the ground is driest and the sun has most power, and in the majority of these cases I could not detect any sign of the plants having had too much nourishment or water, or that the drainage was bad.

With regard to insects and fungus, I have often noticed them in the decayed part some days after the branch failed, but not in the first stage. I have also seen eelworms in knots formed on the roots, more especially of the common *C. viticella*, but I have never seen this species go off in the same way as the hybrids, so I cannot attribute the cause to them, though they are no doubt very injurious to the plant.

I have frequently examined the roots of the hybrids which have died down, and in most cases they appeared perfectly clean and healthy, the decay having started at or above the graft, and the plant has often shot up again from the base, sometimes only to die down once more. Grafting also cannot be put down as the direct reason, as plants on their own roots go off in the same manner.

I do not think, however, that *C. vitalba*, which is so generally used as a stock, is entirely suitable for some of the large flowering hybrids. The roots differ from those of the latter, being of a hard wiry character, the hybrids appearing, after they have had sufficient time to get established on their own roots, to ignore the stock, which eventually decays.

Reverting again to the "dying off," I am of the opinion that it is mainly due to loss of constitution through over-propagation, which has been brought about by the great popularity of, and consequent demand for the hybrids, and being of a soft succulent nature, have responded only too freely to the treatment. My other reasons for coming to that conclusion are, as already mentioned, that the plants mostly go off on the hot bright days of summer, and in many cases after having made several feet of growth, and are forming the flower buds, which seems to me to imply that they are wanting in vital power, and are unable to withstand the extra call upon their strength and the extreme heat. If it is not loss of constitution why was the "dying off" not noticed twenty-five years ago, and why has it increased of recent years, not only in this country but on the Continent, and how is it we do not see the rampant robust growths of former years? Again, it seems strange that whilst the large hybrids have been so badly affected, I have never seen *C. montana*, *C. flammula*, *C. viticella*, or *C. vitalba* collapse in the same manner, unless my contention is correct that over-propagation is the cause. I might also mention I have not yet seen signs of the dying off amongst the new hybrids from *C. coccinea*.

As a decorative plant the Clematis is almost unequalled. Few climbers can surpass it for covering a wall or porch of a house, or training over trelliswork, commencing with *C. montana* early in May, and followed throughout the summer and autumn by the large hybrids of the *patens*, *florida*, *lanuginosa*, *viticella*, and *Jackmanni* types. To these must be now included the new *coccinea* hybrids *C. Countess of Onslow*, *C. Duchess of Albany*, *C. Duchess of York*, *C. Grace Darling*, and *C. Sir Trevor Lawrence*, which, with those of the last type, remain in bloom till frost comes.

The Clematis is at home either planted out or grown in pots in the conservatory, cool greenhouse, or glass corridor, if the situation is not too shady or confined. Those of the *patens* or *florida* types are often more appreciated in these positions than when grown out of doors, coming into bloom as they do at a time when flowers are somewhat scarce, through escaping the May frosts which sometimes spoil those growing outside. Rambling up pillars and poles, over rootery or rockwork, they are alike elegant, and when bedded out produce a most gorgeous effect; but when this is done it is desirable that those of the *viticella* and *Jackmanni* types should be selected on account of their profuse blooming properties. Some of the smaller flowered species, such as *C. flammula*, *C. graveolens*, *C. montana*, *C. vitalba*, or *C. viticella* are also quite in keeping with wild scenery when scrambling over ruins, arbours, tree stumps, banks, hedges, and bushes, whilst several of the herbaceous and sub-shrubby species and varieties are worthy of a place in any herbaceous or mixed border.—(Read before the Horticultural Club, Tuesday, June 19th, by Mr. A. G. JACKMAN.)

NOTES & NOTICES

Recent Weather in London.—The weather has been unsettled during the past few days. Sunday was showery, while after mid-day on Monday the rain fell incessantly until nearly nine o'clock. On Tuesday heavy rain fell at intervals, accompanied by thunder and vivid lightning. Wednesday opened dull, with scanty gleams of sunshine.

Daniels of Norwich.—Under the title of Daniels Brothers (Limited), the long established firm of seedsmen and nurserymen has recently been registered as a limited company. There will be no alteration of management, Mr. B. E. Fletcher remaining chairman of the board, and Mr. Charles Daniels as managing director, with Mr. W. Rogers Smith as secretary. The former proprietors retain the whole interest of the new company.

The Flow of Sap in Maples.—Before a meeting of the Biographical Society of Washington, Mr. W. A. Orton described the result of experiments made to determine the cause of flow of Maple sap in early spring. His conclusion was that the flow has a mechanical cause, being due to the increasing heat which expands the gases in the wood cells, and thus forcibly expels the sap. This contradicts the view that the flow of sap is due only to physiological action in the plant.

Accident to Mr. Robert Fenn.—A very unfortunate accident befel Mr. R. Fenn, the well-known Potato hybridiser, of Cottage Farm, Sulhampstead, on Tuesday, June 26th. Mr. Fenn, who is eighty-four years of age, was walking in his garden in the afternoon when he slipped and broke his leg. Mr. F. W. Faulkner and Mr. Maxwell, who were near at hand, assisted the unfortunate gentleman into his house, and sent for Dr. Cox of Mortimer, who arrived very promptly and gave every care to his patient. Much sympathy is expressed for Mr. Fenn, who is widely known in Sulhampstead and surrounding districts, and as widely respected. He is now going on nicely.

Palestine Orange Groves.—The British Consul at Jaffa states in his report that oil engines are rapidly advancing in favour in Palestine for the purposes of drawing water from the deep wells to irrigate the Orange gardens. Hitherto the water was pumped by animal power. There was a large water-wheel, and from four to eight mules were required to revolve it, according to the size of the wheel. Not only was this a slow and laborious method, but it was very expensive. It has been found that with an oil engine of six-horse power it is possible to pump double the quantity of water that was previously raised by eight mules, while the average expense is about the same.

Quality of Seeds.—A departmental committee has been appointed by the president of the Board of Agriculture to inquire into the conditions under which agricultural seeds are at present sold, and to report whether any further measures can with advantage be taken to secure the maintenance of adequate standards of purity and germinating power. At the committee's first meeting there were present the Earl of Onslow (chairman), Sir W. T. Thiselton-Dyer, Sir Jacob Wilson, Mr. R. A. Anderson, Mr. R. Stratton, Mr. Martin J. Sutton, Mr. James Watt, Mr. David Wilson, and Mr. A. Brooke-Hunt (secretary). The committee considered the evidence they should endeavour to obtain, and then adjourned till after Whitsuntide, when witnesses will be called.

Botanical Name of Ragged Robin.—A correspondent in "Meehan's Monthly" complains of confusion in regard to the botanical name of the familiar Ragged Robin, which he has known as *Centaurea americana*. There is no rule for deciding the right of a plant to any particular name. Anyone has a right to give any name of this kind to a plant. No doubt there are scores of plants called Ragged Robin. If priority has a claim, as it has in technical botany, we must go back to the time of Robin Hood—and his ragged rangers of Lincoln Green. In this way, Ragged Robin came to be associated with *Lychnis Flos-Cuculi*. England is a small territory, and a name once started gets through the community easier than it does in the vast American Continent. This *Lychnis* is the only Ragged Robin of the English people.

A Royal Appointment.—We are informed that Mr. Wm. Baylor Hartland, of Cork, has been sent the Royal Warrant from Buckingham Palace, appointing him purveyor of seeds, &c., in Ireland to her Majesty the Queen. The firm of Hartland is one of the oldest in Ireland, dating back to 1774.

A Privilege from the Queen.—We learn that upwards of 4000 people listened to the music on the East Terrace of Windsor Castle on Sunday, which was thrown open to the public by command of the Queen. The terrace garden is well known in horticultural circles for its exceptional beauty.

Flowering of Bamboos.—The British Consul at Pakhoi in his annual report to the Foreign Office notes an interesting fact not often observed, viz., the flowering in 1898 and 1899 of the thorny Bamboo in various directions about Pakhoi. As is well known, most Bamboos flower once and die. This was the case at Pakhoi, but the Consul has been unable to determine satisfactorily what the ages were, apparently about thirty years in a good many cases. He has kept at least one specimen showing foliage and inflorescence.

The Royal Botanic Society.—In the House of Commons recently, Mr. Hanbury, on behalf of the Commissioners of Woods and Forests, said:—"In the case of the Botanical Gardens, the lease would come to an end very shortly—next year or the year after. That, he thought, would afford an opportunity of seeing that the public had more interest in the institution than they have had in the past. Hitherto the gardens had been altogether closed to the public, but he thought it would be only fair that in any new lease granted there should be a condition requiring that the public might be admitted—of course, on reasonable payment—upon two or three days each week."

Clibrans at York.—In our report of this show we omitted to make reference to the handsome exhibit arranged by Messrs. Clibran & Son, Altrincham. It comprised stove and greenhouse plants, including several of the firm's newer varieties of Crotons and finely coloured *Dracænas*, among these being a particularly attractive specimen of *D. Doucetti*. Another conspicuous old favourite in the group was *Cyanophyllum magnificum*. A made up basket of a new *Pelargonium Oldfield Defiance* attracted general attention. The fine foliaged *Aralias Veitchi* and *V. gracillima* were graceful, as was *elegantissima*. The group was effectively staged.

The Sweet Pea Celebration.—The exhibition and conference meetings in connection with this interesting celebration, which is to be held at the Crystal Palace, Sydenham, on the 20th and 21st insts., will be presided over by Alderman and Sheriff Sir W. P. Treloar. The whole of the eastern division of the nave from the Handel Orchestra will be occupied by the competitive and miscellaneous exhibits, and applications for space for the latter are being received daily. There will be an opening ceremonial on the completion of the judging, to be followed by a luncheon to the foreign visitors and judges, a conference meeting during the afternoon, and a banquet in the evening, together with conference meetings on the second day. There is the promise of a very large exhibition, and numerous entries have already been sent in. The secretary and treasurer is Mr. Richard Dean, V.M.H., 42, Ranelagh Road, Ealing, of whom all particulars can be obtained.

Fruit from the Cape.—A glance at the returns dealing with the importation of fruit from the Cape shows that this industry in Cape Colony has made a conspicuous advance over any preceding year, notwithstanding the war in South Africa. In 1898, when the trade began to assume appreciable dimensions, the number of cases imported was 9169; in 1899 it rose to 10,817; this year the number was no less than 17,336. Among the fruits were Grapes, Plums, Pears, Peaches, Nectarines, Quinces, and a few Apples, but as these last come into competition with large imports from Tasmania, the inducement to growers is not great. The other fruits have a clear market and do well. Coming in as they do in January they fill the hiatus that would otherwise exist in orchard grown fruit between the close of the Californian and the beginning of the home season. Most of the orchards and vineyards at present engaged in the trade are situated in the Het River district, about ninety miles north-east of Capetown, a district which has escaped the actual conflict. Fruit growers in the Colony have just formed an association for their mutual advantage, which will make a point of encouraging the export trade. Among other things they will press for the establishment of a cold store at the harbour in Capetown for the storage of fruit awaiting shipment.

Topiary Work in Excelsis.—At a small German station called Steinham a railway guard in his odd moments has cut a Hawthorn hedge to represent a complete railway train and various figures, numbering sixty-three in all. It is a very attractive feature of the place.

A Northampton Park.—The Parks Committee of the Northampton Town Council have arranged with Lord and Lady Wantage for the purchase of 62 acres to add to Abington Park, a popular retreat near Northampton. The addition, with other purchases and the gift by Lord and Lady Wantage of the Manor House and 20 acres of surrounding land a few years ago, forms a people's park of 140 acres on the outskirts of the town.

National Chrysanthemum Society.—The annual outing of the members and friends of this society to the residence of Alfred de Rothschild, Esq., Halton, Tring, will take place on Wednesday, July 25th. The company will travel by the Metropolitan Railway to Wendover Station. These beautiful gardens have frequently been referred to and several times illustrated in the *Journal of Horticulture*.

National Carnation and Picotee Society.—The annual exhibition of the National Carnation and Picotee Society will be held in the Crystal Palace on Wednesday, July 25th. The alteration, forwarded by the secretary and published on page 551 of our last issue, was made in momentary forgetfulness of the Sweet Pea Bi-centenary celebration, which is fixed for Friday and Saturday, July 20th and 21st.

Bristol Gardeners' Association.—The monthly meeting was held at St. John's Parish Room, Redland, on Thursday, June 28th. A good attendance was presided over by Mr. A. J. Hancock. Mr. W. Staddon of Cote House read the paper, which was on the culture of Strawberries in pots. In his opening remarks he spoke of the origin of our present varieties, and named several he thought most suitable for forcing, amongst them being Royal Sovereign, which he termed the Strawberry of Strawberries. The method of culture he recommended was to secure good runners as early as possible, laying them in small pots till well rooted, when they should be potted in fruiting pots in a compost of loam, manure, with a little wood ashes, the plants to be kept in an open situation until moving to winter quarters. He urged great care in heating and ventilating when housed, recommending syringing and feeding. A discussion followed, and Mr. Staddon was heartily thanked for his paper. Prizes for a dish of Strawberries were secured by Messrs. Ross, Staddon, and Poole. Certificates of merit went to Mr. White for a Pitcher Plant and to Mr. Poole for six fine Cauliflowers.

Croydon Horticultural Society.—The monthly meeting was held at the society's room at the Sunflower Temperance Hotel on Tuesday, June 19th, Mr. W. Harris occupying the chair, Mr. W. J. Simpson the vice-chair. A large attendance of members were present; six new members were nominated. The chairman introduced Mr. W. J. Jarman, one of the younger members, who read a capital and instructive paper on "Carnations," dealing very lucidly with the classification as bizarres, flakes, Malmaisons, &c.; soils, propagation by layers and pipings, cultivation in open borders, potting and indoor culture, and suitable structures were next treated upon; insect pests and diseases were also dealt with. Mr. Jarman's paper was listened to with close attention, and at the close of the reading met with applause. An interesting and profitable discussion followed, in which many of the members took part. The subject was further interesting by the exhibition of some fine varieties of Carnation sent to the meeting by Mr. H. T. Dixon, Hailsham, and a stand of capital flowers from Mr. T. Butcher. A hearty vote of thanks was accorded Mr. Jarman for his paper. The tables were very attractive with a beautiful display of good exhibits. Mr. John R. Bcx sent two dozen excellent flowers of double Begonias, which received considerable attention. Mr. Lisle, Sanderstead, brought some good Cattleyas; Mr. Humphreys, Hackbridge, *Eulophiella gracilis*, a pretty miniature Orchid of botanical interest; Mr. P. Bunyard some fine spikes of *Dictamnus Fraxinella*; *Calochorti* from Messrs. Wallace & Son, Colchester; sprays of flowering shrubs by Mr. Gregory. A vote of thanks was given the exhibitors named. The secretary read an excellent list of lectures and papers to form the programme from August to January next. The chairman then announced that at the next meeting in July an exhibition of Sweet Peas will be held, when ladies will be invited. The meeting closed with a vote of thanks to the chairman and vice-chairman.

Death of Mr. George Gordon, jun.—We learn with deep regret of the death, on the 28th ult., of Mr. G. Gordon, jun., the eldest son of Mr. George Gordon, V.M.H., the editor of the "Gardeners' Magazine." Deceased, though not a horticulturist by profession, was a frequent attender at the Chrysanthemum shows. Our readers will unite with us in sympathy towards our colleague in his great loss.

Where the Wine Comes From.—A return of the quantity of wines at various degrees of strength which were imported into the United Kingdom from Spain, Portugal, Madeira, France, Germany, Holland, Italy, Australasia, and other countries for the year 1899, has been issued as a Parliamentary paper. The total quantity was 17,387,744 gallons, of which 14,941,353 gallons were received in casks, and the remaining 2,446,391 gallons in bottles. Spain heads the list with 4,443,194 gallons, France coming next with 4,060,671 gallons, while Portugal takes third place with 3,953,217 gallons. Thus these three countries supply the great bulk of our imported wine. Australasia is, however, becoming a keen competitor, taking fourth place in the list with 739,754 gallons, or nearly twice as much as was imported from Italy and Holland together, and 270,000 gallons more than from Germany.

June Weather at Dowlais.—Rainfall 3·87 inches, which fell on sixteen days; greatest fall 1·05 on the 24th. Same period last year 1·63. Temperatures: mean in the sun, 73·2°; highest reading 96° on the 5th. There were four sunless days. Mean maximum 66°; highest reading, 80° on the 10th, and only up to 55° on the 30th; mean minimum 43·2°; lowest reading 36° on the 26th, the first month without frost since last August. In the first part of the month the wind was in the N.E., and for the last part from the S.W. A very cold month on the whole, with an occasional spell of hot weather.—WM. MABBOTT.

June Weather at Hodsock Priory, Worksop, Notts.—Mean temperature of month, 59·3° + 2·4°. Maximum in screen, 83·7° on the 12th; minimum in screen, 43·3° on the 6th; minimum on grass, 34·6° on the 6th. Sunshine, 167 hours, or 34 per cent. of possible duration; difference from average, + 9. Rainfall, 1·53 inch; difference from average, - 54. Rain fell on 20 days; maximum fall, 0·29 inch on the 27th. Rain from January 1st, 11·95 inch; difference from average + 0·63. A mild month, with three hot days in the second week. Showery, especially in the latter part, but the heavy thunderstorms just missed us.—J. MALLENDER.

Sussex Weather.—The total rainfall at Abbots Leigh, Haywards Heath, for the past month was 2·93 inches, being 0·92 inch above the average. The heaviest fall was 0·64 inch on the 21st. Rain fell on fourteen days. Total for the six months, 14·72 inches, which is 1·55 inch above the average. The maximum temperature was 86° on the 11th and 12th, the minimum 43° on the 7th; mean maximum, 71°; mean minimum, 50·05°. Mean temperature, 60·52°, 0·29° above the average. Since the thunderstorm on the 7th, and the hot days, 10th and 12th, the weather has been cooler, and sufficient rain has fallen to produce a fine moist growing atmosphere. The rains have done much to wash fruit trees and promote a rapid growth of a good crop of fruit. It has unfortunately been too moist and sunless for Strawberries, much fruit having been spoiled.—R. I.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
June.		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
		deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Sunday.. 24	S.S.W.	60·9	54·5	65·3	49·2	0·12	61·0	59·5	56·0	41·5
Monday.. 25	S.S.E.	56·0	53·9	65·3	53·9	0·33	60·5	59·3	56·1	48·5
Tuesday 26	W.N.W.	58·4	53·8	61·4	52·2	—	59·9	59·1	56·1	50·9
Wed'sday 27	W.N.W.	59·3	53·6	64·1	43·9	—	59·3	58·9	56·1	38·3
Thursday 28	N.N.E.	56·7	54·7	69·1	49·9	—	60·9	58·9	56·1	43·5
Friday.. 29	S.S.E.	60·3	57·2	72·3	53·3	0·21	61·1	59·1	56·1	47·5
Saturday 30	S.S.W.	56·7	55·6	66·5	53·4	—	62·2	59·5	56·1	52·2
MEANS ..		58·3	54·8	66·3	50·8	Total 0·66	60·7	59·2	56·1	46·1

A week of very unsettled weather. Rain fell on three days, and the others being for the most part dull and sunless.



The R.H.S. Show at Richmond.

ONE special feature of the recent most interesting exhibition and meeting of the R.H.S. at Richmond was the fidelity shown by the horticultural trade and some other exhibitors in following the council to the Old Deer Park, and thus producing so fine a display. Whatever may have been the result financially to the Richmond Society, certainly the visitors had a splendid show to look upon. One could but be sorry that so little seemed to be done previous to the show to make it more widely known, especially in London and the western suburbs. Fine as was the attendance on the first day, it should have for such an occasion been doubled—indeed, I cannot but think that thousands of persons would have delightedly gone a few miles to have enjoyed the show and the surroundings of the Old Deer Park. Still the primary fact was the splendid way in which the council of the R.H.S. found itself supported by so many exhibitors.

The second day was chilly, the atmosphere heavy and smoky, indeed at times was very threatening, yet was but London smoke after all; it had a bad effect on the attendance. A sagacious ex-police inspector remarked that the second day should have been Wednesday, the popular half-day for shop closing. That is good advice no doubt. Still far more would the local people be wise did they introduce some elements of popular attraction, especially towards night, such as a grand display of fireworks, as that would no doubt bring in 5000 people at sixpence each. There is so much room for entertainment of this nature in the Old Deer Park that those who cater for flower shows should not scruple to cater for the million also, especially if they wish to make their exhibitions pecuniary successes.—A. D.

Mr. Pearson's Apple Election.

As my mite to Mr. Pearson's Apple election, I will add the name of what I believe to be a good early cooking Apple, especially as doubts are being expressed against the credentials of Ecklinville. As an early Apple I should like to mention Professor. This is apparently a little known Apple, but it is much more satisfactory than Ecklinville. It is earlier, a better and surer cropper, does not spot, is of good appearance, heavier in weight, an excellent cooker, and moreover is a healthy and good grower, bearing freely as a bush or as a standard on the Apple stock. My opinion is there is a future for Professor as an early cooking Apple, either for home use or for market. We are working up a stock for estate planting. In our home nursery we grow thousands of fruit trees for planting on the farms, also for all cottagers who apply for trees and will take care of them, so we make a note of any good Apple that will suit our purpose.

Whilst the pen is in hand I may add a few more jottings on our national fruit. I agree with Mr. Pearson that Beauty of Kent deserves more notice than it received in his election. It is quite equal in many respects to Lane's Prince Albert. It is a prodigious bearer, a good grower, and of excellent quality, being also a variety that may be gathered and sold from the trees or stored till February or March. Banmann's Red Reinette is another good Apple, and of a colour that gladdens the salesman's heart. I am surprised to note that Cox's Pomona does not hold a better position, as it is of fine quality and an excellent bearer. An Apple that does not find a position is Tower of Glammis. The pity is that it is a straggling grower, but this, to a certain extent, can be obviated by shortening the branches. Its bearing propensities are prodigious, and the quality excellent. King of Tompkins County will be much sought after when better known, being one of the best of the American varieties which succeed with us. Last season it was grand, and the fruit will keep in fine condition until far on in the spring. I well remember its being exhibited at the Apple Congress at Chiswick in 1883.

Annie Elizabeth is too shy a bearer in its young state for it ever to become popular, and I do not care much for its cooking qualities. Golden Noble requires more than passing notice, but should be grown as a standard; treated as a bush it is a shy bearer. It is an excellent cooker, having that pleasant acid flavour so agreeable to most palates. I am at one with Mr. Pearson when he asserts that Alfriston should have a better position, being a free bearer and of excellent quality; it keeps well. Of course, Wellington on a warm and well drained soil has few equals, and it bears freely as a standard. Few Apples have better cooking qualities than this old favourite. Stirling Castle is well worthy of its position as second in the list for bushes. These few passing notes do not by any means exhaust my "store" of good cooking Apples, and I note several other old favourites in Mr. Pearson's election. I am sure such a private election serves its purpose; it revives old memories, and does good in many ways.—A. YOUNG, Witley Court, Stourport.

Noteworthy Asparagus.

I READ last year, and again this (pages 463 and 487), with much interest the notes on the Asparagus grown by Mr. Udale on the Experimental Gardens at Droitwich. I also, by the courtesy of Mr. Udale, visited the Gardens, and was very much interested in what was being carried out there. Some years ago, probably ten or twelve, I sent to the *Journal of Horticulture* a specimen of what I was outting, but I forget the exact weight, circumference, and length. I took some specimens to our amateur gardeners' meetings which astonished the members, and one gentleman to whom I gave a taste was so much interested in it that he has had a large portion of his garden planted with Asparagus. A few lines may not be out of place on the history of my successful treatment. The plant grew from an accidental seed in some soil used to level up an old garden walk to the depth of about 6 inches. No preparation of subsoil took place, which is a stiff clay and gravelled, instead of being raised, as is the custom, into mounds, ridges, or beds. The plant grew well and has received manure some seasons, and in others nothing but liquid manure, which is used chiefly in summer after cutting is over, from a cess-pit, and slops from washing days. It has lasted over twenty years, and I had some from it recently for dinner.—JAMES HIAM, *Astwood Bank*.

A London Horticultural Hall.

IN view of the unborn London Hall of Horticulture, a reference to page 529 of your issue of last week seems pertinent. Certainly America is to the fore in horticulture, for we there read of the example furnished by Boston, Massachusetts. This enterprising town, as there stated, acquired ground in 1865 in a central part, and erected a building containing a hall equal to about 150 feet square, this being only 10 feet less than covered by canvas annually for the show in the Temple Gardens, as can be verified on reference to page 432, in your issue of 24th of May. Thus, to all intents and purposes, Boston dealt with an area in 1865, when its inhabitants numbered barely a quarter of a million, as London does now with twenty times that population. The Boston Hall is now assessed at about £18,000. It is being quitted for another site, leaving in the hands of the society a ground value now greatly exceeding £100,000. Where is Boston in the race of world cities as against London? and yet where is the London ideal in relation to the centre of horticulture? London without any such centre certainly stands on a lower grade in horticulture than does Boston among the world's cities!

Is this disgrace to be any longer tolerated by that colossal indifference and ineptitude that reign supreme in these matters in this world's metropolis? Is the horticultural world of London, nay, of the kingdom and empire, so devoid of enterprise and patriotism as to begrudge the small item of cost that would fall to the share of every well-to-do Fellow, man or woman, of the united horticultural societies? It would clearly be an absurdity to continue to support two shadows of horticulture now prevailing in place of one enlightened, from all points of view, truly representative centre.

This centre should be inaugurated in 1904, the centenary of the Royal Horticultural Society, and I hope then in connection with an International Horticultural Exhibition. Is the Government inaccessible as regards Green Park—viz, a grant of it to the R.H.S. in exchange for the latter undertaking to maintain the park as a model of all the exquisite unconventional plants for appropriate naturalisation, to teach the people to unlearn the craze for formality, abhorred by Nature, and which is continued in almost every garden of the kingdom, turning them into gaudy caricatures of noble simple Nature.

Few persons of any knowledge of the subject would doubt that we, as a nation, spend on horticulture annually double of what any other country in the van of civilisation does, and yet we must appear as the laughing stock of the world, seeing that the man in the street cannot show the way to our horticultural centre to strangers, and is obliged vaguely to refer to "our parks."—H. H. RASCHEN, *Sidcup, Kent*.

I WAS privileged a few weeks since to point out that the only way in which it seemed possible to obtain the desired London home for the Royal Horticultural Society was through the instrumentality of a limited liability company. It has leaked out that a site sufficiently extensive, eminently suitable, and in a first-rate position for a horticultural hall and offices, such as is so desirable, has been offered for the purpose at the small sum of £45,000. It is doubtful whether a better or cheaper for the position can be found in London. But it is evident that the R.H.S. could never furnish the sum required to purchase this site, much less to spend £50,000 on the needful erections. For that reason it is folly to expect that the R.H.S. can provide its own hall, which shall exceed in size or be better than the Drill Hall is. It is worth being known also that by the terms of the charter the society is prohibited from spending any money whatever except for purposes that are purely horticultural.—A FELLOW.

Once More Rhubarb!

"AND," I can quite understand some non-Rhubarb lover saying, "let us hope for the last time." I know to many gardeners in private establishments where the demand for Rhubarb is small this crop is considered a very ordinary and even commonplace one; put in some out-of-the-way corner, some dozen or so of roots of Victoria, with the same for early use of Early Red or Linnæus are all that is necessary for their requirements. But, my good friends, let me say that there are places where Rhubarb is in use nearly all the year round, and, therefore, as in my case, the roots of this esculent run into three figures, and the varieties into a round dozen, and where, even now, June 18th, I have taken in my third stone of sticks to be converted into jam, besides a daily pulling; so that with me Rhubarb is a main crop, and so it may be with a few others.

I know also that it is difficult to put into acceptable words any account of this crop which will commend it to the generality of readers—I mean private gardener readers; the market people do not need to read about it, as they have their own way of growing it, and their own special varieties which answer all their needs.

Again I know, we all know, that at this time most men's minds are so filled with Imperial subjects, especially the South African war and the disturbances in China, that really practical subjects treated of in useful valuable articles in our gardening papers get scant attention, and certainly a subject like mine can have little notice. I do not expect it.

Still, there may be a few who care for it, and as I have about seven varieties all growing together on trial, for experimental purposes, I thought that the result of that experiment, as far as it has gone, would be interesting to those few.

My experiment was undertaken to prove three things—earliness, colour and flavour, and productiveness. The seven sorts I planted last year, through which season they were of course not pulled from—1, Chiswick Early Red; 2, Hawkes' Champagne; 3, Lister's Cherry Red; 4, Baldry's Scarlet Defiance; 5, Kelway's Crimson Queen; 6, Stuart & Mein's Seedling; 7, "The Sutton" Rhubarb.

As to earliness, Chiswick Early Red and Hawkes' Champagne, which need no description, being so well known, are the first, and as near as possible together, but Hawkes' gives better stuff, and of higher colour, in the early stages than Chiswick does; but Chiswick has a quicker growth later, and once over its first flowers it will send up a succession of young succulent stalks that are of inestimable value to the daily user. Hawkes', however, taken as a whole, has one or two marks more to it than Chiswick. Kelway's Crimson Queen comes about a week later, but is a slow grower and producer, and so like Salt's Crimson Perfection that you can scarce tell one from the other, high colour is about all that one can say for it.

Lister's Cherry Red and Baldry's Scarlet Defiance come together, and are about ten days or a fortnight later than Hawkes' and Chiswick. With me Lister's Rhubarb has the same good qualities as the Black Hamburg has in Grapes; it is one of the most reliable; a true gardener's friend and the cook's favourite, giving stout sticks, high in colour and of good flavour, and constantly produced. Baldry's has not come up to my standard in productiveness and earliness, and here I must bring out that never to be forgotten fact in gardening—the curious influence of soil and climate on nearly everything grown in a garden. That must be taken account of even in a Rhubarb experiment!

It was through the good offices of our editorial chief that "N. N." sent me roots of Baldry's Rhubarb for my experiment, and during the summer previous to doing so he sent sample sticks, which were idealistic in quality both as to colour, flavour, succulence, and crispness. My soil and climate have not brought out all these good points, as it was a third as to earliness, only ordinary as to productiveness, but as to quality of first-class excellence. On taking a gathering in for stewing one day I asked our cook to keep it separate and report on it. The report was, "Very good; excellent in both colour and flavour." Perhaps another year's growth may develop its other known good qualities; but as a faithful historian I am at this stage compelled to write as I do.

Stuart & Mein's Seedling, which I understand is a cross between Stott's Monarch and Victoria, is the model of a Rhubarb where extra earliness and high colour are not desiderata. It comes in with Victoria, which is about a fortnight or a little more after Hawkes' and Chiswick. It has the stoutest, crispest of young stalks: they are almost transparent, with no fibre in them, and are of surpassing sweetness, there being less of what is to some that very objectionable acid than in any other Rhubarb I have tasted. Indeed,

this sweetness, with the light colour, caused our cook to say that, cut small, "it would make good Apricot jam." Its habit of growth is close and compact, taking up little room, and where space is an object that is a strong point in its favour. By reason of some of these points I am very favourably impressed with it.

"The Sutton" Rhubarb is a splendidly vigorous, strong, and upright grower; indeed, it is so stiff and dignified in its habit that we have called it the Lord Mayor. There's such a large amount of civic official dignity about it, as if it said, "Look at me; I *am* somebody," as to be most amusing. But it was more than amusing to us when, the wind being in a frolic one day, it ran all round it, and in and out of the stems and big leaves, and finally with a shriek of apparent delight, brought down to the ground some of the strongest sticks with the largest leaves and levelled them, and there they lay in prostrate humility. I should rather like to know the parentage of this Rhubarb; there's certainly Victoria, and I think Hawkes' blood in it. As to the last I am not quite sure, because it shows no sign of red colouring from one end of the stems to the other. It is a tremendous grower, and will make a grand forcing Rhubarb, and I shall take care of it and multiply it for that purpose, if for nothing else.

Well, now, what is the lesson of this experiment? The lesson to me is, that I am satisfied for all practical purposes I could reduce my many varieties to three or four. Hawkes' Champagne, and perhaps Chiswick Early Red, Lister's Cherry Red, and Victoria for forcing. For a variety of reasons, however, I shall keep one or two others, as Baldry's Scarlet Defiance, and "The Sutton" and Stuart and Meins' Seedling. I am waiting, also, now for Daws' Champion, which Mr. Poupert of Twickenham tells me he hopes to send out this autumn. If half that has been said of it be found to be true in my soil and climate, then it will be an acquisition both as to earliness, size, colour, and flavour. It may well be asked, But what is the use of trying so many new things, especially such a thing as Rhubarb?

The answer must be, that every gardener worth his salt wants to grow the best of every crop, and he can only do this by trying and trying what suits his place, and satisfies his requirements in the novelties which are being constantly sent out. A gardener's education is never completed. He is a learner up to the last day he works in his garden. At least, that is the opinion of—N. H. P.

Sefton Park Palm House.

THIS important gift to the city of Liverpool by H. Yates Thompson, Esq., was opened in October, 1896, and, as no particulars of the dimensions have appeared, it may interest readers to know that it is 133 feet to the outer side of the porches. Dome from floor 82 feet, diameter 55 feet; upper dome 13 feet, diameter 15 feet. Ninety tons of polished granite were used, 200 tons of steel, 20 tons of glass, 4000 feet of piping; the concrete floor swallowed up 600 tons of material. The ship surmounting the dome is 6 feet long by 6½ feet high, and is an exact copy of that which carried Columbus to America. Mr. Thompson is also having placed on the outside pedestals excellent life size figures, there being now those of Darwin, Linnæus, Captain Cook, and others.

The interior presents a charming appearance—plenty of floor space and good seating accommodation, with several handsome pieces of sculpture. The view depicted was taken at a time when everything seemed to be in strict accord. There were the beautiful background of giant Palms and Ferns, the magnificent groups of Lillium Harrisii and Spiræas rising from the base and looking down, as it were, on the chaste and beautiful scene, and with the figure of Highland Mary by Spence, and the exquisite lines of Burns—

"The golden hours on angel wings
Flew o'er me and my dearie,
For dear to me as light and life
Was my sweet Highland Mary."

went to make up an attractive picture. My thanks are due to Mr. Herbert, the curator of the Parks, and to Mr. White, who has charge of the Palm house, for their courtesy and kindness.—R. P. R.

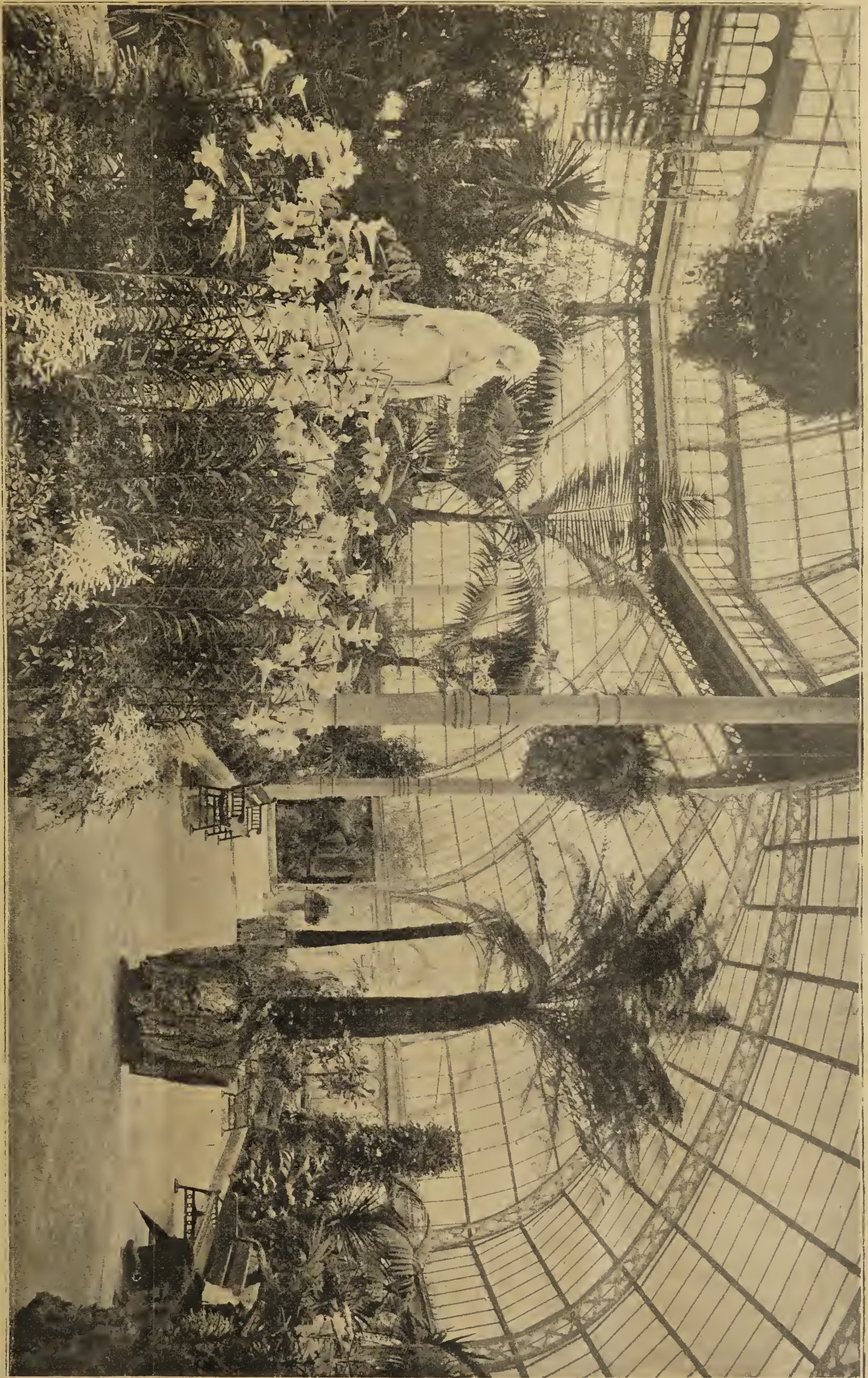


Fig. 3.—THE PALM HOUSE, SEFTON PARK, LIVERPOOL.

Royal Horticultural Society.

Examination, 1900.

THE annual examination in the Principles and Practice of Horticulture was held on April 25th: 236 papers were sent in.

Three hundred marks were allotted as a maximum, and all candidates who obtained 200 marks and upwards were placed in the first class. The total number was 141, or nearly 60 per cent.

The highest number of marks (300) was awarded to Miss E. Welthin-Winlo, from the Horticultural College, Swanley, Kent.

Those who secured 150 and less than 200 marks were placed in the second class. The number was 61, or nearly 26 per cent.

Those who obtained 100 and upwards were ranked in the third class. The number was 30, or nearly 13 per cent.

Four candidates, obtaining less than 100 marks, were not placed.

Comparing the results with those of the last two years * the entry has greatly increased; viz., from 190 in 1898, and 165 in 1899, to 236 in 1900. It will be observed that the percentage of the first and third classes is much higher than in previous years.

The second has remained about stationary.

The questions were, as a rule, very satisfactorily answered. We observe, as might be expected, that the students from colleges are in some cases better prepared in the elementary principles than in practical horticulture; many were unacquainted with the importance and meaning of respiration in plants.

The candidates were well versed in practical horticulture, and showed greater knowledge in minor details than heretofore. Many of them in their answers branched off into extraneous matters not required in reply to the question at all. It is important that they should keep strictly to the text of the questions.

GEORGE HENSLOW, }
JAMES DOUGLAS } *Examiners.*

First Class.

No. of Marks.	No. of Marks.
1. Miss E. Welthin - Winlo, Swanley ... 300	33. Miss E. Powell, Swanley ... 260
2. Miss H. Draper, Swanley ... 290	33. Mr. A. Salt, Stafford ... 260
2. Mr. C. Richards, Holmes Chapel ... 290	33. Mr. W. Warburton, Stafford ... 260
2. Mr. B. N. Wale, Stafford ... 290	33. Mr. J. Williamson, Holmes Chapel ... 260
5. Miss E. Wright, Swanley ... 285	46. Mr. R. Ashley, Holmes Chapel ... 255
5. Mr. A. William Day, Turnford ... 285	46. Miss S. B. Bond, Swanley ... 255
5. Mr. E. T. B. Reece, Reading ... 285	46. Mr. F. W. Brow, Annan ... 255
5. Mr. G. Underwood, Leicester ... 285	46. Mr. A. Broughton, Holmes Chapel ... 255
5. Mr. F. C. Walton, Newmarket ... 285	46. Mr. K. G. Burbridge, Chelmsford ... 255
5. Mr. G. Wassell, Alfreton ... 285	46. Miss M. Culleton, Reading ... 255
11. Miss E. Boorman, Swanley ... 280	46. Mr. W. Good, Chiswick ... 255
11. Mr. C. H. Buck, Swanley ... 280	46. Mr. J. P. Holt, Holmes Chapel ... 255
11. Miss D. Fearnley, Swanley ... 280	46. Mr. R. G. King, Swanley ... 255
11. Miss A. M. Foster, Swanley ... 280	46. Mr. A. Mason, Chelmsford ... 255
11. Miss I. T. Hopkins, Reading ... 280	46. Mr. W. S. Patey, Liverpool ... 255
11. Miss J. Marsh, Debham, Colchester ... 280	46. Mr. W. S. Sharp, Cheshire ... 255
11. Miss F. Meadmore, Swanley ... 280	46. Miss D. Shove, Swanley ... 255
11. Miss M. Rayner, Reading ... 280	46. Mr. H. Smith, Chelmsford ... 255
11. Mr. B. Smith, Chelmsford ... 280	46. Miss G. R. Tudor, Reading ... 275
20. Miss G. d'Arcy, Swanley ... 275	61. Miss T. B. Baker, Swanley ... 250
20. Miss E. M. Gunnell, Skipton ... 275	61. Mr. A. Elisha, Esher ... 250
20. Mrs. I. E. Dymond, Reading ... 275	61. Mr. H. R. Farmer, Cardiff ... 250
20. Mr. A. Sowman, Ipswich ... 275	61. Mr. H. L. Jones, Clitheroe ... 250
24. Mr. E. M. Bear, Chiswick ... 270	61. Mr. J. W. Molyneux, Stockwell ... 250
24. Mr. A. A. Butcher, Chelmsford ... 270	61. Mr. R. Neish, Broxbourne ... 250
24. Mr. A. E. Say, Swanley ... 270	61. Mr. A. J. Pye, Chelmsford ... 250
24. Miss M. Dowding, Swanley ... 270	61. Mr. W. H. Waite, Edinburgh ... 250
24. Miss E. M. Ebbutt, Swanley ... 270	69. Mr. J. W. Bamber, Acerington ... 245
24. Miss C. E. Dunham-Massey, Swanley ... 270	69. Mr. W. Easson, Wimbledon ... 245
24. Mr. F. E. Tremain, Swanley ... 270	69. Mr. H. P. Glaister, Chiswick ... 245
24. Mr. C. J. Yates, Stafford ... 270	69. Mr. D. McGregor, Dalkeith ... 245
32. Mr. E. Wilson, Stafford ... 265	69. Miss F. D. Sandford, Swanley ... 245
33. Mr. B. Ashling, Highgate ... 260	69. Mr. L. Scott, Holmes Chapel ... 245
33. Miss A. M. Clough, Swanley ... 260	69. Miss E. D. Varley, Swanley ... 245
33. Mr. J. Donald, Edinburgh ... 260	69. Miss K. Wilkinson, Swanley ... 245
33. Mr. L. Farrand, Swanley ... 260	77. Mr. A. Bettesworth, Winchfield ... 240
33. Mr. C. W. Gale, Eastleigh ... 260	77. Mr. W. Brown, Gatehouse ... 240
33. Mr. J. H. Groves, Caterham ... 260	77. Mr. G. A. Fryer, Holmes Chapel ... 240
33. Mr. H. Hand, Holmes Chapel ... 260	77. Mr. J. J. Graham, Penarth ... 240
33. Mr. R. Lewis, Holmes Chapel ... 260	
33. Mr. D. Massey, Holmes Chapel ... 260	

First Class—(continued)

No. of Marks.	No. of Marks.
77. Mr. C. F. Hughes, Holmes Chapel ... 240	103. Mr. F. Watson, Leicester ... 220
77. Mr. G. H. Larnder, Swanley ... 240	112. Mr. H. C. Chapelow, Chiswick ... 215
77. Mr. H. R. Quinn, Cambridge ... 240	112. Mr. C. P. Cretchley, Twyford ... 215
77. Miss E. Read, Swanley ... 240	112. Mr. J. Pillington, Holmes Chapel ... 215
77. Mr. A. Richardson, Holmes Chapel ... 240	112. Mr. C. S. Carey, Winchester ... 215
77. Mr. H. Tomalin, Dorking ... 240	112. Mr. A. Usher, Leicester ... 215
77. Mr. W. A. Ward, Chelmsford ... 240	112. Miss M. Walker, Swanley ... 215
77. Mr. G. Wilson, Streatham Hill ... 240	118. Mr. H. P. Appleton, Leicester ... 210
89. Mr. D. G. McIver, Chelmsford ... 235	118. Miss L. Gibbs, Swanley ... 210
89. Mr. W. Jones, Stafford ... 235	118. Mr. H. Hewitt, Stafford ... 210
89. Mr. G. Scourfield, Tidenham ... 235	121. Mr. F. Briggs, Settle ... 205
89. Mr. J. P. Watson, Leicester ... 235	121. Mr. H. Corlett, Woolton ... 205
93. Mr. T. J. Adnitt, Cambridge ... 230	121. Mr. E. H. Crisp, Chelmsford ... 205
93. Miss F. St. Barbe, Swanley ... 230	121. Miss J. S. Davies, Reading ... 205
93. Mr. M. Field, Wallingford ... 230	121. Mr. T. Dent, Wallingford ... 205
93. Mr. W. B. Sanday, West Norwood ... 230	121. Mr. A. Kirkman, Bolton ... 205
93. Mr. J. Sibley, Dulwich Common ... 230	121. Mr. A. Paterson, Wimbledon ... 205
93. Mr. E. W. Wakeham, Bexley Heath ... 230	121. Miss L. Powell, Guildford ... 205
99. Mr. O. Berry, Holmes Chapel ... 225	121. Mr. G. W. Pyman, Chiswick ... 205
99. Mr. W. Lewis, Stafford ... 225	121. Miss A. Smit, Swanley ... 205
99. Mr. F. Peaples, Harwood ... 225	121. Mr. J. Walker, Cobham ... 205
99. Mr. T. Simpson, Enville ... 225	132. Mr. J. Botley, Maidenhead ... 200
103. Mr. E. Buck, Cambridge ... 220	132. Mr. T. Brown, Cambridge ... 200
103. Miss M. Y. Carlyon, Reading ... 220	132. Miss C. M. Carylton, Swanley ... 200
103. Mr. W. Dear, Spean Bridge ... 220	132. Mr. F. W. Harvey, Chelmsford ... 200
103. Mr. R. Timmis, Stafford ... 220	132. Mr. J. Hutchinson, Edinburgh ... 200
103. Mr. J. Good, South Norwood ... 220	132. Mr. F. Johnson, Attercliffe ... 200
103. Miss M. Hitchfield, Swanley ... 220	132. Miss B. M. S. Niederhuber, Swanley ... 200
103. Mr. J. McGowan, Holmes Chapel ... 220	132. Mr. P. W. Philpott, Droitwich ... 200
103. Mr. F. G. Storrs, Chiswick ... 220	132. Miss G. Robinson, Reading ... 200
	132. Mr. S. Sparkes, Bath ... 200

Second Class.

1. Mr. G. Astridge, Winchester ... 195	31. Mr. J. Jeffery, Kew ... 175
1. Mr. F. Ball, Long Ditton ... 195	31. Mr. T. M. Parry, Stafford ... 175
1. Mr. J. Drew, Bromsgrove ... 195	31. Mr. F. F. Paul, Chelmsford ... 175
1. Mr. W. H. Gilbey, Cambridge ... 195	31. Mr. H. H. Readett, Lymington ... 175
1. Mr. J. T. Hargreaves, Bolton ... 195	31. Mr. J. G. Richards, Stafford ... 175
1. Mr. W. Neish, West Kirby ... 195	31. Mr. F. Smith, Caterham ... 175
1. Mr. A. Painton, Wallingford ... 195	31. Mr. W. A. Whitehurst, Stafford ... 175
1. Mr. E. Scrowcroft, Bolton ... 195	40. Mr. S. Boon, Stafford ... 170
1. Mr. J. Shrivess, Stafford ... 195	40. Mr. H. W. Brown, Whyteleafe ... 170
10. Mr. G. G. Buck, Cambridge ... 190	40. Mr. G. F. Greenhalgh, Bury ... 170
10. Mr. G. A. Hobbs, Netley Abbey ... 190	40. Mr. E. H. Scott, Wallingford ... 170
10. Mr. M. Housego, Cardiff ... 190	40. Mr. W. Yeomans, Farnborough ... 170
10. Miss L. Kelsall, Reading ... 190	45. Miss E. Ecclestone, Stafford ... 165
10. Mr. W. Marsden, Accrington ... 190	45. Mr. G. E. Hutt, Cambridge ... 165
10. Mr. J. J. Parnell, Stafford ... 190	45. Miss N. C. Pascoe, Cambridge ... 165
10. Mr. J. W. Guttridge, Reigate ... 190	45. Mr. H. J. S. Stobart, Stourbridge ... 165
10. Mr. E. Smith, Swanley ... 190	45. Mr. J. W. Watson, Preston ... 165
10. Mr. B. J. Spong, Bourne-mouth ... 190	50. Mr. G. Curry, Bawtry ... 160
10. Mr. S. H. Stanbridge, Cobham ... 190	50. Mr. W. S. Edwards, Wallingford ... 160
10. Mr. A. E. Turk, Tuubridge Wells ... 190	50. Miss A. E. Clarke, Cambridge ... 160
10. Mr. J. Walker, Cambridge ... 190	59. Mr. F. W. Fortune, Southampton ... 160
10. Mr. G. Willan, Lymington ... 190	50. Mr. H. Smith, Caterham ... 160
23. Miss E. B. Pitman, Nottingham ... 185	55. Mr. W. J. Nash, Wimbledon ... 155
23. Mr. E. E. Scrowcroft, Bolton ... 185	55. Mr. J. Shaw, Bury ... 155
23. Mr. W. T. Taylor, Leicester ... 185	55. Mr. J. F. Wood, Bolton ... 155
26. Mr. S. Mayoh, Bolton ... 180	55. Mr. W. Worsley, Bolton ... 155
26. Miss M. Potter, Reading ... 180	59. Miss H. Haworth, Stafford ... 150
26. Mr. T. W. Rolfe, Chelmsford ... 180	59. Mr. R. W. Routley, Stourbridge ... 150
26. Mr. G. Stedman, Cobham ... 180	59. Mr. T. F. Tilbrook, Cambridge ... 150
26. Mr. W. H. Tuff, Isleworth ... 180	
31. Miss G. M. Franklin, Cambridge ... 175	
31. Mr. T. Hunter, Kingston-upon-Thames ... 175	

Third Class.

1. Mr. E. Brown, Epping ... 145	12. Mr. H. W. Spong, Bourne-mouth ... 130
1. Mr. A. S. Poole, Cambridge ... 145	18. Mr. F. C. Halliwell, Bolton ... 125
1. Mr. J. R. Wright, Caterham ... 145	18. Mr. R. B. Harrisou, Quarlton, Lancs. ... 125
4. Mr. W. Bradburn, Lymington ... 140	18. Mr. J. Price, Wallingford ... 125
4. Rev. F. R. Lawson, Stourbridge ... 140	21. Mr. A. Wood, Bolton ... 120
4. Mr. W. Tucker, Caterham ... 140	22. Mr. J. Coombes, Arretton ... 115
7. Mr. T. Cales, Bolton ... 135	22. Mr. A. Edwards, Bawtry ... 115
7. Mr. J. J. Hall, Wallingford ... 135	24. Mr. F. C. Crack, Bawtry ... 110
7. Mr. B. Hygate, Cowes ... 135	24. Miss A. E. Morris, Cambridge ... 110
7. Mr. C. A. Spragg, Cambridge ... 135	24. Mr. P. Mossman, Bawtry ... 110
7. Mr. A. Steventon, Caterham ... 135	24. Mr. F. H. Tipping, Stourbridge ... 110
12. Mr. J. Arthurson, Halswood ... 130	28. Mr. E. Rushling, Bawtry ... 105
12. Mr. S. H. Brooks, Lymington ... 130	29. Mr. G. Hayles, Wallingford ... 100
12. Mr. C. Harwood, Bawtry ... 130	29. Mr. J. Twynham, Bawtry ... 100
12. Mr. J. Hurstfield, Lymington ... 130	
12. Mr. T. Masters, Droitwich ... 130	

* See Journal of the R.H.S., vol. xxiii., p. 64.

Rose Shows.

Richmond, June 27th and 28th.

THIS fixture brought out a fair competition in most of the classes, but they as a whole appeared to be rather below the average, many of the blooms clearly showing evidence of the wet weather they had passed through. The miscellaneous exhibits were unusually numerous and good.

In the class for forty-eight Roses, distinct, three trusses of each, there was a capital competition. Messrs. F. Cant & Co., Colchester, were awarded the premier position and the Chancellor challenge cup, staging good, full, fresh flowers. The varieties were Duke of Teck, White Lady, Général Jacqueminot, Bessie Brown, Comtesse de Ludre, Madame Jules Grolez, Dr. Andry, Madame Montet, Captain Hayward, Mrs. Paul, Countess of Rosebery, Souvenir de President Carnot, Madame Jules Finger, Comte de Raimbaud, Mrs. F. Cant, Marie Baumann, Gustave Piganeau, Margaret Dickson, Crown Prince, Etienne Levet, Souvenir de Madame Eugène Verdier, Fisher Holmes, Antoine Rivoire, Helen Keller, Victor Hugo (grand), Lady Mary Fitzwilliam, Duke of Fife, Mrs. W. J. Grant, A. K. Williams, Madame Cusin, Le Havre, Charlotte Gillemot, Madame E. Boulet, Duke of Edinburgh, Maman Cochet, Prince Arthur, Mrs. S. Crawford, Duke of Wellington, Kaiserin Augusta Victoria, Chas. Lamb, Marchioness of Dufferin, Beauty of Waltham, Xavier Olibo, Rev. Alan Cheales, Dupuy Jamain, Souvenir de S. A. Prince, Souvenir d'Elise, and one unnamed. Mr. B. R. Cant, Colchester, was second with a good exhibit, but the flowers were not quite so even throughout as in the first exhibit. Général Jacqueminot, Duchesse de Morny, Lady Mary Fitzwilliam, Mrs. J. Laing, Mrs. W. J. Grant, Medea, and Ulrich Brunner were all excellent examples. Messrs. D. Prior & Son, Colchester, were third.

For twenty-four Roses, distinct, there were five exhibitors, and the first position was awarded to Messrs. D. Prior & Son for a capital exhibit. The varieties were Lady Mary Fitzwilliam, Ulrich Brunner, Rubens, Prince Camille de Rohan, Souvenir de S. A. Prince, Fisher Holmes, Helen Keller, Souvenir d'un Ami, Souvenir de Madame Eugène Verdier, Dupuy Jamain, A. K. Williams, Marie Van Houtte, Marie Baumann, Mrs. J. Laing, Abel Carrière, Mrs. W. J. Grant, Madame Gabriel Luizet, Prince Arthur, Marchioness of Downshire, Captain Hayward (splendid); White Lady, Mrs. S. Crawford, Exposition de Brie, and Kaiserin Augusta Victoria. Mr. B. R. Cant was second, staging Mrs. S. Crawford, Ulrich Brunner, Mrs. W. J. Grant, White Lady, and Margaret Dickson in good style; while Messrs. F. Cant and Co. brought up the rear with a bright fresh-looking collection.

The competition for twelve trebles, distinct, was keenly contested. Messrs. D. Prior & Son leading with Lady Mary Fitzwilliam, A. K. Williams, Helen Keller, Mrs. S. Crawford, Marie Van Houtte, Gustave Piganeau, Ulrich Brunner, White Lady, Mrs. W. J. Grant, Mrs. J. Laing, Fisher Holmes, and Souvenir de S. A. Prince. Mr. B. R. Cant was a good second, staging fine blooms of Mrs. J. Laing, Mrs. S. Crawford, Duchesse de Morny, and Mrs. W. J. Grant; while Messrs. G. and W. H. Burch, Peterborough, were third.

There were four entries for twelve Roses, one variety; and the first prize was awarded to Messrs. F. Cant & Co. for a beautiful dozen of A. K. Williams. Messrs. G. & W. H. Burch were second with Mrs. Sharman Crawford; and Mr. B. R. Cant third with Général Jacqueminot. For twelve Teas, one variety, Mr. B. R. Cant was first with well coloured Madame Cusin. Messrs. F. Cant & Co. followed with Marie Van Houtte; and Messrs. D. Prior & Son were third with the same variety.

In the amateurs' section for twenty-four Roses, distinct, Mr. C. J. Salter, gardener to Mrs. Haywood, Reigate, was first with a beautifully fresh board. The best flowers were Gustave Piganeau, Duke of Fife, Duke of Wellington, La France, and Mrs. J. Laing; while Mr. R. E. West, Reigate, was second.

Non-Competitive Exhibits.

Messrs. W. Spooner, Arthur's Bridge Nursery, Woking, arranged six boxes of garden Roses, also two boxes of Teas. The garden Roses were just in the pink of condition, and made a pleasing break. Messrs. Paul & Son, Cheshunt, arranged a beautiful collection of Pæonies and garden Roses. The latter included Ma Cupucine, Black Moss, Anna Ollivier, and Clara Jacquier; the Pæonies M. Krelage, Madame Raquet, Clair Dubois, Madame Furtado, and Imperial. A grand exhibit of Crotons were arranged by Messrs. Robert Green, Ltd., Crawford Street, W. The colours were bright and most effectively arranged. Some of the best varieties were Baron Frank Selleri, Mercury, Reidi, Nestor, and Apollo.

Messrs. J. Russell, Richmond, had an imposing table of hardy flowers, which were not only in good form, but in great variety also, the Iceland Poppies, Irises, Gladioli, and Gaillardias being most prominent. From Messrs. Dobbie & Co., Rothesay, came a beautiful collection of Sweet Peas arranged loosely in their own foliage, which produced a bright effect, also a collection of Violas, in which A. J. Rowberry, Sydney, Iona, Shamrock, Ophelia, Primrose Dame, and Border Witch. Messrs. T. S. Ware, Ltd., Feltham, were represented

by a choice collection of hardy flowers and rock plants, the Lilioms, Campanulas, Gaillardias, and Saxifragas being especially noteworthy.

Messrs. Hugh Low & Co., Bush Hill Park Nursery, Enfield, arranged a choice and effective group of Orchids, which included Cattleya Mossiæ Wagneri, C. M. Disciplino, and C. M. Duke of Teck, also some fine forms of C. gigas, Mossiæ, and C. Mendeli, also a few good Odontoglossums, Cypripediums, and Cymbidium Lowianum. Mr. W. H. Young, gardener to Sir F. Wigan, Bart., East Sheen, made a noble display of Orchids, which consisted of a bank of flowers. Lælia tenebrosa, Lælio-Cattleya Wigania, Miltonias, Odontoglossums, and some charming Cattleyas constituted the chief feature of the display, although there were many other beautiful plants.

Mr. A. Howard, gardener to H. Little, Esq., Twickenham, also staged a beautiful table of Orchids arranged with Ferns and Panicum. Some huge plants of Cymbidium Lowianum, Cattleyas gigas and Mossiæ, Cypripediums, and Odontoglossums were the chief features. From Messrs. Carter & Co., High Holborn, came a pretty collection of Davallias, growing on quaint shapes to resemble boats, styles, crosses, crowns, and so on; also an interesting and large collection of rock and alpine plants. A grand exhibit of Begonias was that staged by Messrs. T. S. Ware, Ltd., Feltham. The plants were all well flowered, while the individual flowers were excellent. Some striking varieties were Duchess of Devonshire, Miss Irene Lewer, Mrs. Andrew Tweedie, Jubilee Beauty, and Mr. Jas. Portbury. The singles were enormous in size and brilliant in colouring.

Mr. Amos Perry, Winchmore Hill, exhibited a large collection of hardy flowers, in which baskets of Heuchera sanguinea were bright, as were also the Pinks in variety, Irises, Lilioms in variety, Gladioli, Lychnis diurna plena, Campanula Hosti, and Phlox ovata. Messrs. John Laing & Sons, Forest Hill, formed a pretty group with double and single Begonias, Streptocarpus, Cacti, and a variety of foliage plants and Ferns. Mr. W. Iceton, Putney, arranged some charming Palms and large decorative plants, also a pretty group of foliage plants, such as Caladiums, Pandanus, Acers, Ferns, and relieved with boxes of Lily of the Valley.

Fruit in pots came from Messrs. T. Rivers & Son, Sawbridge-worth, the trees being the picture of health and well laden with fruit. The Peaches included Princess of Wales, Thomas Rivers, and Grosse Mignonne, while trees of Pineapple, Victoria, and Byron Nectarines were good. The Cherries were Early Rivers, Frogmore Bigarreau, and Belle d'Orleans. A beautiful group of plants came from Mr. W. Thompson, Sheen Nurseries, Richmond, comprised of Spiræas in variety, Kentias, Dracænas, Acers, and other foliage plants. A group of Acers in variety was staged by Messrs. W. Fromow & Sons, Chiswick, which formed a pleasing contrast to the brighter exhibits near.

A bright and attractive group of miscellaneous plants were arranged by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, consisting of Sweet Peas in pots, some good blocks of single and double Begonias, Cannas, and a variety of decorative plants. Mr. Chas. Turner, Slough, was the only competitor in the classes for Pelargoniums, and was awarded first prize in each class for some very fine specimens. Messrs. B. S. Williams and Son, Holloway, arranged a pretty exhibit, in which Malmaison Carnations played the chief part, while the Dracænas, Palms, Ferns, and Grasses materially helped the display.

Southampton, June 27th and 28th.

In the Pavilion on the Royal Pier the summer exhibition of the Royal Southampton Horticultural Society was held, and was in every way a success.

Plants were not over-numerous, but good in quality. The principal class was that for a miscellaneous group arranged for effect. Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak Lodge, Bishopstoke, won the premier award for a collection in which Orchids were prominent and tastefully arranged. Mr. W. Peel, gardener to Miss Todd, Sidthorpe Lodge, Sturley, was a good second. In the class for six stove and greenhouse plants, Mr. T. Hall, gardener to Sir S. Montague, Bart., South Stoneham House, secured first place with medium-sized examples of Bougainvillea glabra, Clerodendron Balfourianum, and Croton magnificum; Mr. Peel second. Mr. H. Osman, gardener to Mrs. Haslefoot, Moorhill, West End, third. For four Mr. Peel won, staging Apelexis macrantha and Erica depressa well. In the class for a group of Orchids Mr. Carr easily secured the premier award. Mr. Osman was a successful exhibitor in the classes for Ferns, Caladiums, and Pelargoniums, securing first prizes in each class. Mr. Carr had the best Gloxinias in well flowered examples.

Among cut flowers Roses were a prominent feature. In the class for thirty-six, distinct, Messrs. G. & H. Burch, Peterborough, won the coveted award with even-sized blooms. François Michelon, Margaret Dickson, La France, Ulrich Brunner, Her Majesty, Captain Hayward, Innocente Pirola, Mrs. J. Laing, Tom Wood, Kaiserin Augusta Victoria, and Prince Arthur were notable examples. Messrs. D. Prior & Sons, Colchester, were a good second. Mr. Burch also won for twelve triplets, twelve Tea or Noisette, and for six of any one variety, dark and light also, Messrs. Prior following. In the amateurs' division Dr. Seaton won first place for eighteen, and also for twelve distinct varieties, staging really fine examples. Mr. Hall was a prominent exhibitor, too, in this section.

Sweet Peas were a distinct feature of the show. In the class for nine varieties in bunches, Mr. W. Toogood, Warren House, Nursling, won with a really fine exhibit of popular varieties. Mr. E. Kemp Toogood second. Mr. B. Ladhams, Shirley Nurseries, was invincible in the class for twelve hardy border flowers, staging huge bunches of *Campanula persicifolia* Porcelain, *Iris gigantea*, *Coreopsis* Eldorado, *Gaillardia* Brilliant, *Delphinium nudicaule*, *Armeria superba*, and Pink Annie Duval. Messrs. Isaac House, Coombe Nurseries, Bristol, second.

Baskets of Roses were a great feature. Miss L. Tyrell, Dagna Villa, Bevois Hill, Southampton, secured the coveted place with a charming arrangement; Miss Wadmore, Basingstoke, second. Messrs. Perkins & Sons, Coventry, were invincible with both bride and ball bouquets. Fruit and vegetables were numerous and good.

Canterbury, June 28th.

FOR the twenty-second time the Canterbury and Kent Rose Society held its annual show in the Foresters' Hall of the cathedral city on June 28th. The enthusiastic rosarians of the district showed well up to their form, with the result that some excellent blooms were staged. In the open class for eighteen blooms in distinct varieties Mr. Cooper Wachter took premier honours with an excellent stand; Mr. R. E. West of Reigate came second, and Colonel Pitt, Maidstone, third. That veteran grower the Rev. H. B. Biron of Lympne came out at the top in the class for twelve distinct blooms, followed by Mr. R. E. West and Col. Pitt. In the class for six blooms the order was changed among the above trio of competitors, Mr. West being first, the Rev. H. B. Biron second, and Col. Pitt third.

Mr. H. Walters of Eastwell Park won the cup offered by the Mayor of Canterbury and the first prize for twelve blooms in the class open to members growing less than 1000 plants. Mr. J. Stoneley, Canterbury, and Miss Hawksworth, Herne, were second and third in the foregoing order. For nine blooms in the same section Mr. H. Foster, Ashford, was a good first, Mr. S. H. Dean, Wingham, second, and Mr. H. Walters third. For four varieties the order of prize-winners were Mr. Dean, Mr. Stoneley, and Mr. Walters.

For growers of less than 300 plants the Rev. Canon Holland had the best nine varieties; Mr. H. J. Goulden, Canterbury, was to the front with six; and the Rev. Canon Holland won with three. In the class for growers of less than 150 plants Mr. C. C. Williamson, Canterbury, and Mr. H. J. Goulden were first prizewinners. Mr. Cooper Wachter, had the best six blooms of any H.P. Rose, and Mr. S. Hill, Dean, won with six blooms of any Tea or Noisette. The Rev. F. R. Burnside, St. Margaret's Bay, had the best nine varieties of Teas and Noisettes; Mr. J. Wakeley, Rainham, second; and Mr. Cooper Wachter third. There were several other minor classes, and in the ladies' division Miss Dean, Wingham, showed the best basket of Roses, followed by Mrs. C. C. Williamson and Miss J. E. Ellen.

Colchester June 28th.

THIS show was held in the convenient grounds of Hill House, as last year, when the Provincial Show of the N.R.S. was at Colchester. The day was distinctly favourable, being the first without rain for ten days, and not too hot. The majority of the exhibitors had been at Salisbury N.R.S., and seemed to think that the quality at Colchester showed a little improvement.

In thirty-six (open) Mr. B. R. Cant was first with a good stand, considering the season, Général Jacqueminot, Mrs. Sharman Crawford, and some fine Teas being conspicuous in his stand. Messrs. F. Cant & Co. were decidedly a good second, two or three new Roses, Madame Jules Grolen, Madame E. Bouillet, and Rev. Alan Cheales being points of interest. Messrs. D. Prior & Son were third with a weaker stand, but the medal (open) Rose in Mrs. Sharman Crawford, was found in this stand. In twelve Teas (open) Mr. B. R. Cant was easily first, having Ernest Metz, Catherine Mermet, and Bridesmaid in good condition. Messrs. F. Cant & Co. second, having a bloom of white Maman Cochet, not quite up to our hopes of what it may be. In garden Roses Mr. B. R. Cant was easily first, his bunches being very large and thickly flowered.

In the amateur classes it was clear, with few exceptions, that the strong buds had not yet opened. Mr. Pemberton was first for eighteen, showing a good Maman Cochet; Mr. Orpen second, and Mr. Foster-Melliar third. In twelve Teas the quality was very poor, as the exhibitors seemed to have been unanimous in disposing their best blooms in other classes. Mr. Berners was first, Mr. Foster-Melliar second, and Mr. Orpen third. The principal item was the class for twelve. Here Mr. Orpen was first with a fine clean stand, Mrs. W. J. Grant taking the medal, and Mrs. John Laing (fine colour), and Mavourneen looking well. Mr. Foster-Melliar was second with a rather small but good Horace Vernet and a Madame Hippolyte Jamain that had been fine at Salisbury, looking little the worse for the journey; Mr. Pemberton was third, and Mr. Berners was unplaced, but there were three very fine Teas in his stand—Comtesse de Nadaillac (medal Tea), The Bride, and Maman Cochet. In four trebles Mr. Pemberton was first, Mr. Foster-Melliar second, and Mr. H. P. Landon third. In the class for six H.P.'s or H.T.'s of a sort Mr. Foster-Melliar was

first with La France, small but good, and Mr. Pemberton second with Caroline Testout. No entries for six Teas of a sort.

The smaller and local classes were particularly well filled, showing an increasing interest in the matter in the neighbourhood, and the herbaceous exhibits were very fine. In another tent there was capital competition in the decorative classes, a useful lesson being shown by one dinner table with many valuable Orchid sprays being (I think) unplaced, while the first prize had only, as far as I can remember, Poppies and Grasses. In two classes for vase of wild flowers and Grasses, for girls under sixteen and thirteen years of age, there were, I should think, between thirty and forty exhibits, almost all of the same style, same receptacle, and same materials—Poppies and Grasses; they looked as if the same person had set them all up. The life of a Rose judge is not always a happy one, but I am glad I had not to judge those vases.—W. R. RAILLEM.

Isle of Wight, June 28th.

THE Isle of Wight Rose Society held its annual exhibition of the queen of flowers in the Esplanade Gardens, Ryde (by permission of the Mayor and Corporation), on Thursday last. The day was gloriously fine, and a very large number of people availed themselves of the opportunity of seeing what proved to be one of the best shows the society has ever held. The entries were more numerous than at many previous shows, and the competition in most classes was keen. The general standard of excellence fell, in the opinion of some growers, short of what it had been at previous shows. The exhibitor of the day was Mrs. E. Croft Murray (gardener, Mr. G. H. Kent), who excelled in the local classes, winning the new silver cup for twenty-four distinct Roses, the Queen's gold medal for twelve distinct Roses, the bronze medal for the best Hybrid Perpetual in the show with Comtesse Ludre, and the I.W. Horticultural Improvement Association's certificate for cultural merit with the same Rose.

The Mayor of Ryde (Alderman James James, C.C., J.P.), opened the show with a few appropriate remarks, cordially welcoming the society to Ryde. His references to various exhibits were much appreciated, as Mr. James is a florist in his native town, and has by his own perseverance, energy, and skill risen from the ranks to the influential and honourable position of Mayor.

The non-competitive exhibits of Messrs. Wallace & Co., Colchester, and Mr. F. G. Foster, Havant, were greatly appreciated by the visitors, and well deserved the certificates of merit awarded to them. The Calochorti and Liliiums in Messrs. Wallace's collection were exceedingly fine, as also were Mr. Foster's Sweet Peas. The arrangements of the show reflected great credit on the Rev. G. E. Jeans and Mr. E. V. Matthews, hon. secs., who by their geniality, foresight, and tact carried everything to a successful issue.

It will be observed that the major portion of the prizes in the open section went to some of the leading Colchester growers. For twenty-four, distinct, Messrs. B. R. Cant, F. Cant & Co., and D. Prior & Son were most successful; while Messrs. Frank Cant & Co. and D. Prior and Son were first and second respectively for twelve distinct Teas or Noisettes. For eight trebles Mr. B. R. Cant was first, Messrs. D. Prior and Son second, and Messrs. F. Cant & Co. third. The same order was maintained in the class for twelve blooms of any one variety. In the class for twelve bunches of garden Roses, distinct, not less than three trusses to a bunch, Messrs. F. Cant & Co. were first, Mrs. Croft Murray second, and Mr. B. R. Cant third. For epergues, bouquets, sprays, and buttonholes the prizes were shared by Mr. C. Price and the Rev. J. Shearme.

In the open to all amateurs class, for eighteen distinct, single trusses, Mr. R. E. West, Reigate, was first; Mr. J. D. Brook second; and the Rev. J. E. Jeans third. For twelve Tea Roses, distinct varieties, Mrs. Croft Murray annexed the premier prize. In all of the above classes some flowers of excellent quality were observable; while, as has been the case at all other shows this season, many showed the effects of the weather.

The classes in the section confined to growers in the Isle of Wight were, as a rule, well filled and keenly contested. The first prize in the class for twenty-four distinct varieties carried with it the Isle of Wight silver challenge cup. Mrs. Croft Murray was the envied winner, followed by Mr. J. Lee White and the Rev. J. E. Jeans. For twelve Roses the first and second named maintained their positions, and Mrs. Mainwaring was third. With this first prize went her Majesty the Queen's gold medal. For twelve distinct Teas Miss E. G. Carter was first, and the Rev. J. E. Jeans second; while for six Teas of any one variety Mrs. Croft Murray was again to the fore, followed by the Rev. J. E. Jeans. Mr. J. O. Brook and Miss Carter were first and second for four distinct Teas or Noisettes, three blooms of each; while for six bunches of garden Roses Mrs. S. Hutt was first, Miss Carter second, and the Rev. A. T. Richardson third. The I.W. divisional classes were well filled, and brought forth some good blooms. The successful exhibitors were Mrs. E. Ward, Miss Carter, Mrs. Mainwaring, Mrs. Croft Murray, Mrs. S. Hutt, Mr. J. Lee White, and Mr. J. O. Brook.

Mr. J. Lee White annexed the silver medal for the best Tea Rose grown in the island with The Bride. The best Hybrid Perpetual was Comtesse de Ludre, from Mrs. Croft Murray.

Windsor, June 30th.

No more delightful position in which to hold a horticultural exhibition could be wished for than is, by gracious permission of her Majesty the Queen, annually obtained by the Windsor, Eton, and District Rose and Horticultural Society, viz., the charming pleasure grounds around Windsor Castle. The ninth show was held on Saturday last, and as far as could be judged from the number of entries and quality of the blooms displayed, would appear to be the most successful yet experienced. Unfortunately the weather was not very propitious; in the morning there was every sign of an early downpour of rain, and this doubtless deterred many intending visitors from being present.

The cut blooms, as already remarked, were numerous, and on the whole excellent; the same remark may also be equally well applied to all the exhibits. In the tent near to the entrance gates Messrs. C. Turner, Slough, had two lovely groups, the one of many coloured Fancy Pelargoniums, and the other of pot Roses, both of which were much admired. From The Dell Baron Schröder had sent a beautiful collection of Orchid plants in flower; prominent amongst them were *Masdevallias*, *Cattleyas*, *Miltonias*, choice forms of *Odontoglossum crispum*, *Cypripedium Stonei*, *C. callosum*, *Sanderæ*, and *Lælia grandis tenebrosa*. The groups of plants arranged for effect, although small, were exceedingly well set up. The first prize in this closely contested class fell to Lady Piggott, Wexham Park, Slough (gardener, Mr. Fleming), whose Bamboos, Carnations, Lilies, Abutilons, *Francoas*, and Ferns were individually fine, and also effectively put together. N. L. Cohen, Esq., won second honours, and A. F. Govett, Esq., third.

Messrs. Alex. Dickson of Newtownards were successful in obtaining first prize for forty-eight distinct blooms, and also the Queen's cup, presented by her Majesty. Their stand contained fine flowers of *Comtesse de Nadaillac*, Mrs. W. J. Grant, Mildred Grant (a new Rose), and Ulrich Brunner. Mr. B. R. Cant was second, and Messrs. D. Prior and Son, Colchester, third. In the latter exhibit there was a splendid bloom of Horace Vernet that obtained the silver medal for the best Rose in the show. In the class for eighteen Teas or Noisettes, distinct, single trusses, Messrs. Alex. Dickson & Sons were again first, their best bloom being Ernest Metz. Mr. George Prince, Oxford, second, had fine *Maréchal Niel*; and Messrs. F. Cant & Co., Colchester, were third. For twelve distinct Roses, three trusses of each, a fine stand, in which Ulrich Brunner and Mrs. W. J. Grant were the best, again gained first honours for Messrs. Alex. Dickson & Sons; while Mr. B. R. Cant took second place, his best being Gustave Piganeau and Alfred Colomb.

Messrs. Dickson & Sons were also first for twelve single trusses, any H.P. or H.T., with their new Rose Mildred Grant; Mr. G. Prince, Oxford, came second with Mrs. W. J. Grant; and the third prize went to Mr. B. R. Cant. For twelve single trusses, any Tea or Noisette, Mr. Prince was first with *Comtesse de Nadaillac*, and Messrs. D. Prior and Son were second. Premier honours fell to Messrs. Paul & Son, Old Nurseries, Cheshunt, for eighteen bunches of garden Roses. Particularly pretty were *R. rugosa fimbriata*, *Camoens*, *Carmine Pillar*, and *Polyantha grandiflora*. Messrs. Cooling & Sons, Bath, came second. The above classes were open to all England.

In the amateurs' class for twenty-four distinct, single trusses, the Rev. J. H. Pemberton; whose best blooms were Her Majesty and A. K. Williams, was first, Mrs. Haywood second with fine flowers of Tom Wood and Margaret Dickson; P. G. Burnand, Esq., took third prize. Rev. J. H. Pemberton also gained first honours for twelve distinct, single trusses, the best being Caroline Testout and Maman Cochet. G. W. Cook, Esq., was second, and Mrs. Haywood third. For six distinct, single trusses, G. W. Cook, Esq., took first place, having Mrs. W. J. Grant very good. Mrs. Haywood came second, and P. G. Burnand, Esq., third. In the class for six distinct, three trusses of each, premier honours again fell to G. W. Cook, Esq., with the Rev. J. H. Pemberton second. Mrs. G. Bulteel was awarded first prize for twelve distinct single trusses, and Mrs. C. Norman Lacy second.

Colin Romaine, Esq., won first prize and the challenge bowl given by Mr. B. Cant for eighteen distinct, single trusses, of which Jeannie Dickson and Mrs. W. J. Grant were the best. Arthur Munt, Esq., took second honours, and Mrs. Irving third. The silver medal of the N.R.S. for the best bloom shown by an amateur was awarded to Arthur Munt, Esq., for *Comtesse de Nadaillac*. The stand containing this also gained first prize in the class for six single trusses any Tea or Noisette.

The non-competitive exhibits were both numerous and attractive. Messrs. Veitch & Sons had a splendid display of hardy flowers, including fine *Delphiniums*, *Pæonies*, *Verbascums*, *Antirrhinums*, and *Polemoniums*. Eckford's beautiful Sweet Peas were well represented, and much admired. Mr. Amos Perry, Winchmore Hill, London, N., and Messrs. Barr & Sons, of Long Ditton, showed excellent groups of hardy flowers. Sweet Peas were staged by Mr. E. F. Such, Maidenhead, and Messrs. Hinton Bros., Warwick. A pretty group of Carnations, *Hydrangeas*, and *Crassulas* was set up by Messrs. Cutbush, Highgate; and Messrs. Russell & Son, Richmond, exhibited a fine group of hardy ornamental foliage shrubs, including *Acers*, *Eunonymus*, *Oaks*, and *Ivies*. Beautiful *Irises*, *Calochorti*, and *Lilies* were sent by Messrs. Wallace & Co., Colchester. Messrs. Jackman & Son showed a fine collection of Roses, both in bunches and single trusses; and Messrs. C. Turner, Slough, staged an interesting collection of Strawberries in many different varieties. The floral decorations of Messrs. Titt & Son, Windsor, were

remarkably pretty; the same firm also showed hardy flowers in variety. Messrs. Smith Bros., florists, Windsor, arranged a small group, in which were Carnations, Lilies, and Asparagus. Last but not the least interesting of the non-competitive exhibits were the Strawberry plants growing in a tub, sent by Mr. Leopold de Rothschild from Gunnersbury House.

Westminster, July 3rd.

THE Rose show in the Drill Hall on Tuesday was a successful one in every respect. The flowers on the whole were of excellent quality considering the unfavourable weather that has prevailed; in some instances they were superb. There was fairly good competition in all the classes, and in some it was particularly keen. Many of the flowers were clean and rich in colour.

In the class for twenty-four trusses, distinct, there were four competitors, and the premier position was awarded to Messrs. D. Prior and Son, Colchester, who staged a good even box. The varieties were Gustave Piganeau, White Lady, Marquis Litta, Caroline Testout, Ulrich Brunner, Mrs. John Laing, Captain Hayward, Helen Keller, Mrs. Sharman Crawford, Marie Baumann, Mrs. W. J. Grant, Victor Hugo, Souvenir d'Elise, Beauty of Waltham, Marie Verdier, S. M. Rhodocanachi, E. Y. Teas, Ernest Metz, Fisher Holmes, Kaiserin Augusta Victoria, Alfred Colomb, Lady Mary Fitzwilliam, A. K. Williams, and François Michelin. The second prize was allotted to Mr. B. R. Cant, Colchester, for a good board, which included good blooms of Ulrich Brunner, White Lady, La France, Mrs. J. Laing, Duke of Wellington, A. K. Williams, and Marquis Litta.

For eighteen single trusses, amateurs, there were six entries, and a capital show they made. The first prize was awarded to Mr. C. J. Salter, gardener to Mrs. Haywood, Reigate, who staged an even box; the varieties were Ulrich Brunner, Mrs. J. Laing, Etienne Levet, Caroline Testout, Marie Baumann, Marquis Litta, Madame Gabriel Luizet, S. M. Rhodocanachi, Xavier Olibo, François Michelin, Captain Hayward, Mrs. W. J. Grant, Dupuy Jamain, Beauty of Waltham, Mrs. S. Crawford, Général Jacqueminot, Duchesse de Morny, and Louis Van Houtte. The Rev. J. H. Pemberton, Havering-atte-Bower, was a good second with clean bright flowers. The best specimens were Caroline Testout, Mrs. S. Crawford, Ulrich Brunner, Captain Hayward, and Marquis Litta.

In the class for eighteen single trusses (open) there were two contestants, and Mr. C. Turner, Slough, proved the victor with a capital box. The varieties were Caroline Testout, Général Jacqueminot, Mrs. J. Laing, Ulrich Brunner, Her Majesty, François Michelin, Camille Bernardin, Helen Keller, Duke of Teck, Mrs. W. J. Grant, A. K. Williams, Mrs. S. Crawford, Kaiserin Augusta Victoria, Horace Vernet, Ellen Drew, Prince Arthur, Souvenir de President Carnot, and Duke of Wellington. Messrs. G. Cooling & Son, Bath, were second with a weaker display. The best were Mrs. S. Crawford, Marquis Litta, Captain Hayward, and Rev. Alan Cheales.

The class for twelve trusses brought out five competitors. The first prize was awarded to Mr. G. W. Cook, Torrington Park, N., for an excellent dozen. The varieties were Mrs. John Laing, Duchess of Bedford, Mrs. S. Crawford, La France, Général Jacqueminot, Kaiserin Augusta Victoria, Gustave Piganeau, La France, Caroline Testout, Dupuy Jamain, Mrs. W. J. Grant, and Captain Hayward; while the Rev. A. Foster-Melliar, Sproughton Rectory, Ipswich, and H. P. Sander, Esq., Brentwood, were equal second, both exhibiting in good form. The competition in the class for six trusses, distinct, brought out a strong contingent, no less than ten competitors staging. The first prize fell to Miss B. H. Langton, Raymead, Hendon, for a fresh exhibit of Mrs. W. J. Grant, Charlotte Gillemot, A. K. Williams, La France, Marquis Litta, and Captain Hayward. Mr. R. Cook, Stonebridge Park, was a creditable second.

For nine trusses, one variety, there were five entries. Mr. C. J. Salter proved the winner with good blooms of Mrs. J. Laing, while Mr. Humphrey, gardener to P. G. C. Burnand, Esq., Reigate, was second with Mrs. S. Crawford. In the class for six trusses, one variety, there were no less than eleven boxes staged, and Mr. G. W. Cook proved the winner with capital blooms of Mrs. J. Laing, followed by E. M. Bethune, Esq., Denne Park, Horsham, who staged Mrs. S. Crawford.

In the amateur section there were four competitors for eighteen trusses of Teas and Noisettes. The chief place was taken by Mr. O. G. Orpen, Colchester, who had a box of average blooms. The varieties were The Bride, Anna Olivier, Amazone, Cleopatra, Madame Hoste, Innocente Pirola, Souvenir de S. A. Prince, Comtesse de Nadaillac, Medea, Catherine Mermet, Souvenir d'Elise Vardon, Hon. Edith Gifford, and Rubens. The Rev. Foster-Melliar was a good second with Bridesmaid, Sylph, Maréchal Niel, and Catherine Mermet in good form.

In the open class for eighteen trusses Teas and Noisettes, distinct, there were five boxes, Mr. Geo. Prince, Oxford, taking the first place with a charming box, the varieties being Comtesse de Nadaillac, Muriel Grahame, Golden Gate, Maman Cochet, Souvenir d'un Ami, Maréchal Niel, Madame de Watteville, The Bride, Madame Cusin, Rubens, Souvenir de S. A. Prince, Princess of Wales, Catherine Mermet, Medea, Innocente Pirola, Amazone, Luciole, and Cleopatra, while Messrs. D.

Prior & Son were a good second, though the blooms were smaller. The best were Golden Gate, Catherine Mermet, Souvenir d'Elise, Marie Van Houtte, Alba Rosea and Sylph.

For twelve trusses, not less than nine varieties, there were four entries. Mr. E. M. Bethune was placed first with small neat flowers. The varieties were Innocente Pirola, Madame Cusin, Golden Gate, Maman Cochet, Francisca Kruger, Souvenir de Thérèse Levet, Catherine Mermet, The Bride, Hon. Edith Gifford, and Marie Van Houtte. Mr. Alfred Tate, Leatherhead, was second with good examples of Hon. Edith Gifford, Cleopatra, and Golden Gate. The amateur competition for six trusses brought out nine boxes, and Mr. G. A. Hammond, Burgess Hill, was well ahead with Maman Cochet, a fine bloom; Catherine Mermet, The Bride, and Madame Hoste; while Mr. H. P. Landon was a fair second with good blooms of The Bride and Catherine Mermet.

There were only two entries from amateurs for nine blooms, one variety. Mr. O. G. Orpen, staging small blooms of Souvenir de S. A. Prince, came first; followed by Mr. J. Fitt, gardener to F. W. Campion, Esq., Reigate, with Souvenir d'un Ami. The class for six blooms, one variety, was popular, drawing no less than seven entries. The first prize was awarded to Mr. E. M. Bethune for a good box of Comtesse de Nadaillac; while Miss B. H. Langton followed with Madame Cusin of good colour.

The open class of garden Roses for thirty-six, distinct varieties, brought out three good collections. Messrs. Paul & Son, Cheshunt, secured the premier honours with a truly fine exhibit. The bunches were large, well arranged, and not too crowded. The varieties were Reine Olga de Wurtemberg, Alba, Simplex, rugosa, Madame Charles Worth, Alister Stella Gray, Camoens, W. A. Richardson, rugosa Souvenir A. C. Cochet, r. Reine, George Bruant, Morletti, Rosa Mundi, Madame Falcot, Laurette de Messimy, Polyantha grandiflora, L'Idéal, r. Blanche double de Coubert, Marquise de Salisbury, Gustave Regis, Claire Jacquier, r. gallica pumila, Una, Paul's Carmine Pillar, r. fimbriata, Amadis, Madame Pernet Ducher, Provence Kakanlek, The Garland, The Sion, Céline Forestier, Common China, Madame Chedane Guinnoiseau, Dawn, Madame Perney, Royal Scarlet, Anna Maria de Montravel, Black Moss, and Madame P. Cochet—an interesting exhibit; while Messrs. G. Cooling & Sons, Bath, were a good second, the bunches being bright and fresh.

The amateur class for eighteen bunches of garden Roses brought out three competitors. The first prize fell to Mr. Alfred Tate for a charming exhibit, followed by the Rev. J. H. Pemberton with a worthy exhibit. The open class for nine bunches was patronised by three competitors, Mr. B. R. Cant securing leading honours for some fine bunches; while Messrs. Paul & Son were second with bunches hardly so well displayed as the leader.

In the amateur class for six bunches the competition was keen, but Mr. O. G. Orpen was adjudicated the winner, followed by the Rev. J. H. Pemberton, and Mr. W. J. Prewett, gardener to C. A. Pearson, Esq., Farnham, in the order named. The open class for six bunches of Teas or Noisettes brought three exhibitors, the first prize being allotted to Mr. B. R. Cant for a good display; Mr. Geo. Prince came second, and Messrs. F. Cant & Co. third.

Croydon, July 4th.

THE thirty-third annual exhibition of the Croydon Horticultural Society was held in the grounds of Brickwood House on Wednesday. The Croydon Show is always a good one, and this year proved no exception to the rule. All the sections were well filled, the groups and table decorations making a particularly handsome display. Roses were numerous and well shown, notwithstanding the numerous conflicting fixtures. Several prominent growers sent flowers, and the majority of the classes were well filled and keenly contested. In some of the exhibits of Roses the dressing of the blooms had been carried to excess. We give the prizewinners in the principal Rose classes, lack of space prohibiting attention being given to the remaining sections.

The principal open class was for forty-eight distinct single trusses, and the premier position was secured by Mr. B. R. Cant, Colchester, who showed some excellent flowers. The varieties included Ulrich Brunner, Helen Keller, Alf. Colomb, Marchioness of Londonderry, Général Jacqueminot, La France, S. M. Rodocanachi, Her Majesty, Gustave Piganeau, Baroness Rothschild, Madame Victor Verdier, Mrs. W. J. Grant, Marquise Litta, Caroline Testout, Camille Bernardin, Mrs. J. Laing, Mrs. Sharman Crawford, Le Havre, Madame Cusin, La Fraicheur, White Lady, Duke of Teck, Kaiserin Augusta Victoria, Chas. Lefebvre, Mrs. Cocker, François Michelin, Medea, Marie Baumann, Catherine Mermet, Jean Soupert, Innocente Pirola, Etienne Levet, Dr. Andry, Muriel Grahame, A. K. Williams, Souvenir d'un Ami, Fisher Holmes, Duchesse de Morny, J. S. Mill, Madame Gabriel Luizet, Duke of Wellington, Thos. Mills, Marie Van Houtte, Xavier Olibo, Cleopatra, Horace Vernet, and Marie Verdier. Messrs. D. Prior & Son, Colchester, were a remarkably close second. The best were Her Majesty, Mrs. J. Laing, and Beauty of Waltham. Messrs. F. Cant and Co. were third.

Mr. B. R. Cant was again first for twenty-four trebles with an even stand. The varieties were Ulrich Brunner, White Lady, Le Havre, Her Majesty, Margaret Dickson, Marquise Litta, Dupuy Jamain, Mrs.

Paul, Kaiserin Augusta Victoria, A. K. Williams, Fisher Holmes, Lady Mary Fitzwilliam, Bridesmaid, Marie Baumann, S. M. Rodocanachi, Mrs. Sharman Crawford, Mrs. W. J. Grant, J. S. Mill, La France, Général Jacqueminot, Madame Gabriel Luizet, Duke of Wellington, Capt. Hayward, and Mrs. J. Laing. Messrs. D. Prior & Son were second, and Messrs. F. Cant & Co. third.

There were only two entries in the class for eighteen Teas or Noisettes, distinct, and Messrs. D. Prior & Son were placed first with Souvenir de S. A. Prince, Madame de Watteville, Souvenir d'Elise Vardon, Innocente Pirola, Catherine Mermet, Niphetos, Golden Gate, Luciole, Comtesse de Nadaillac, Muriel Grahame, Maman Cochet, The Bride, Ernest Metz, Jean Ducher, Souvenir d'un Ami, Maréchal Niel, Caroline Kuster, and White Maman Cochet. Messrs. F. Cant & Co. were second. Mr. W. Tayler, Hampton, was the only exhibitor of twenty-four distinct, and received the first prize.

For twelve Teas or Noisettes, one variety, Messrs. D. Prior and Son were first with Souvenir de S. A. Prince in splendid form; Messrs. F. Cant & Co. were second with Madame de Watteville. There were five entries for twelve Roses, any one variety, and Messrs. F. Cant & Co. were first, B. R. Cant second, and D. Prior and Son third, all with Mrs. W. J. Grant. Mr. W. Tayler was first for twelve bunches of garden or decorative Roses.

The amateur challenge cup for thirty-six Roses, distinct, was won by Mr. C. J. Salter, gardener to Mrs. Haywood, Reigate, with an even, clean stand, comprising some excellent flowers. The varieties included Gustave Piganeau, François Michelin, Caroline Testout, Etienne Levet, Duke of Wellington, Mrs. J. Laing, Ulrich Brunner, Her Majesty, Prince Arthur, Marquise Litta, Madame Gabriel Luizet, Alfred Colomb, Mrs. Sharman Crawford, Duke of Fife, Horace Vernet, Mrs. W. J. Grant, Marie Baumann, Tom Wood, Margaret Dickson, S. M. Rodocanachi, Camille Bernardin, Marie Verdier, Duke of Teck, La France, Général Jacqueminot, Le Havre, Marchioness of Downshire, Beauty of Waltham, Louis Van Houtte, White Maman Cochet, Captain Hayward, Comte Raimbaud, Merveille de Lyon, Madame Prosper Langier, Madame Isaac Pereire, and A. K. Williams. Mr. E. M. Bethune, Denne Park, Horsham, was a fair second. A superb bloom of Mrs. John Laing in this stand received two silver medals. Mr. Alfred Slaughter, Steyning, was disqualified on the plea that he had shown two examples of Roseriste Jacobs, one under the name of Horace Vernet, but the duplication was by no means certain.

In the class for twenty-four, distinct, Mr. E. Mawley was placed first with best blooms of Maman Cochet, Ulrich Brunner, Fisher Holmes, Kaiserin Augusta Victoria, Gustave Piganeau, and Duke of Wellington. Mr. A. Slaughter was second, but his flowers showed the effects of the weather to a marked degree. Mr. R. E. West, Reigate, was placed third.

Mr. A. Slaughter was first for eighteen Teas or Noisettes in not less than twelve varieties. The flowers comprised Hon. E. Gifford, Cleopatra, Souvenir de S. A. Prince, Souvenir d'Elise Vardon, Niphetos, Maman Cochet, Madame Hoste, Comtesse Panisse, Innocente Pirola, Souvenir d'un Ami, The Bride, Marie Van Houtte, Anna Ollivier (2), Catherine Mermet (2), and Caroline Kuster. Mr. C. J. Salter was second with small blooms, and Mr. E. M. Bethune third.

Mr. C. J. Salter annexed the premier award for six trebles with Mrs. J. Laing, S. M. Rodocanachi, Mrs. Sharman Crawford, François Michelin, Marie Baumann, and Ulrich Brunner. Mr. R. E. West was second. Mr. C. J. Salter was again first for twelve blooms of any one variety with Mrs. J. Laing, and Mr. A. Slaughter second with the same variety; Mr. E. M. Bethune was third with Caroline Testout.

Miss B. Langton, Hendon, was first for six bunches of garden or decorative Roses; Mr. E. Mawley was second.

In the class for twelve distinct, open to growers of less than 2000 plants, Mr. P. Burnand, Reigate, was first, Mr. E. M. Bethune second, and Miss Langton third. There were five entries. Mr. E. M. Bethune was first for twelve Teas or Noisettes in the same section, and was followed by Mr. Slaughter and Miss Langton. Mr. P. Burnand was first for four trebles, Miss Langton being second, and Mr. E. M. Bethune third.

For nine Roses, open only to growers of less than 1000 plants, Miss Langton was first, and Mr. F. W. Amsden second. Miss Langton was again first for nine Teas or Noisettes, and was the only exhibitor. Mr. R. W. Bowyer, Hertford, was first for six distinct Roses for growers of less than 500 plants; Mr. Thrale was second, and Mr. G. H. Cole third. Mr. R. W. Bowyer was the only exhibitor of six Teas or Noisettes, and received the first prize.

The challenge cup for twelve Roses, distinct, open only to local growers, was won by Mr. H. Lascelles, Sydenham Road North, Croydon. He showed Mrs. Sharman Crawford, Ulrich Brunner, Mrs. J. Laing, Duke of Edinburgh, Général Jacqueminot, Caroline Testout, Ollivier Delhomme, Her Majesty, Margaret Dickson, Madame Gabriel Luizet, La France, and Vicomte Vigier. Mr. F. W. Amsden, Croydon, was second, and Miss Thrale, Shirley, third.

Apart from the Roses, the groups were the best feature, especially two large circular arrangements from Mr. J. Harris, gardener to Phillip Crowley, Esq., Croydon, and E. H. Coles, Esq., Caterham, which took the first and second prizes. The former was artistically displayed, but the latter contained the greater variety of plants. Smaller groups were also most creditable. Mr. J. Harris exhibited some handsome specimen plants in various classes.

Reigate, July 4th.

THE exhibition was held in the grounds of the president, J. Welsh, Esq., Laglands, Reigate, and proved a good average show. The competition in the larger classes was somewhat poor, though this could not be said of the flowers; the classes confined to small growers were in most cases well contested.

In the class for twenty-four trusses, distinct, there were only two competitors. Mr. W. Mease, gardener to A. Tate, Esq., was first with a well-balanced box. The varieties were Caroline Testout, Ulrich Brunner, Mrs. J. Laing, Kaiserin Augusta Victoria, Etienne Levet, Her Majesty, Gustave Piganeau, Dupuy Jamain, Mrs. S. Crawford, Dr. Sewell, Madame Gabriel Luizet, François Michelin, Marie Baumann, Alfred Colomb, Mrs. W. J. Grant, Marie Verdier, Prince Arthur, Madame Cusin, S. M. Rodocanachi, Duke of Wellington, Jeanie Dickson, Margaret Boudet, and Horace Vernet. The second position was awarded to Mr. F. W. Campion, who staged good blooms of Ulrich Brunner, Her Majesty, Mrs. W. J. Grant, Mrs. J. Laing, and Madame Abel Chateney in good form.

The same number of competitors contested the class for twelve Teas or Noisettes, and again Mr. W. Mease proved the victor. The varieties were Sonvenir de S. A. Prince, Maman Cochet, Marie Van Houtte, Madame Hoste, Souvenir d'un Ami, Souvenir d'Elise Vardon, Niphotos, Madame Cusin, Madame de Watteville, Caroline Kuster, Corinna, and Cleopatra. Mr. Campion followed with a much weaker stand, in which the flowers were unnamed. For twelve Roses, one variety, Mr. F. W. Campion was first with Mrs. J. Laing, while Mr. W. Mease was second with a moderate box of La France.

In the class for eight Roses distinct, three trusses each, the judges awarded equal first to Mr. W. Mease and Mr. F. W. Campion. The former staged Mrs. J. Laing, Marie Baumann, Kaiserin Augusta Victoria, and Ulrich Brunner in capital condition, while the latter had Mrs. W. J. Grant, Caroline Testout, and Margaret Dickson as the best examples.

There were only two exhibits for the challenge trophy for twenty-four Roses, distinct, and Mr. R. E. West succeeded in winning the trophy a second time. The flowers were beautifully fresh and bright. The flowers were Ulrich Brunner, Merveille de Lyon, Marquise Litta, Olio, Mrs. J. Laing, Chas. Lefebvre, S. M. Rodocanachi, Caroline Testout, Marie Finger, Marie Baumann, La France, Général Jacqueminot, Captain Hayward, Mrs. Sharman Crawford, Duke of Edinburgh, François Michelin, Prince Arthur, Comtesse de Nadaillac, Annie Wood, Xavier Olibo, Bridesmaid, Alfred Colomb, Baroness Rothschild, and Prince Camille de Rohan. The second place was allotted Mr. W. C. Romaine, who had some fine flowers, though the box was somewhat uneven. The best were Lord Macaulay, Dupuy Jamain, Gustave Piganeau, Mrs. J. Laing, and Maréchal Niel.

For twelve trusses of Teas or Noisettes, confined to growers of not more than 2000 plants, Mr. R. E. West was again to the fore with a moderate box. The varieties were Comtesse de Nadaillac, Madame Hoste, Maman Cochet, The Bride, Bridesmaid, Francisca Kruger, Cleopatra, Marie Van Houtte, Innocente Pirola, Madame de Watteville, Caroline Kuster, and Madame Cusin. Mr. W. C. Romaine was second with smaller blooms, but they were clean and fresh. The best were Francisca Kruger, Hon. Edith Gifford, and Souvenir de S. A. Prince.

The same pair of exhibitors came together in the class for six distinct varieties, three blooms each, Mr. R. E. West again taking first prize with a good box; the varieties were Mrs. J. Laing, Général Jacqueminot, Caroline Testout, Mrs. S. Crawford, Captain Hayward, and S. M. Rodocanachi. Mr. W. C. Romaine followed with weaker flowers. For twelve, one variety, Mr. R. E. West was awarded first prize for a splendid box of Ulrich Brunner, while Mr. W. C. Romaine was second with moderate Mrs. J. Laing.

The competition in the section for growers of not more than 1000 plants, the competition was much better. For twelve distinct trusses Mr. T. Halsted was first, staging Marie Verdier, Marquis Litta (grand), Caroline Testout, Duke of Teck, Gustave Piganeau, Marchioness of Downshire, Ulrich Brunner, La France, Mrs. S. Crawford, Xavier Olibo, Souvenir de Madame Eugène Verdier, and Thos. Mills. Mr. G. A. Hammond, who followed, had good blooms of Maman Cochet, Her Majesty, and Mrs. J. Laing, while Dr. Seaton made a good third. There were four competitors for twelve Teas or Noisettes, Mr. G. A. Hammond winning well with some clean blooms of Maman Cochet, Catherine Mermet, Madame Cusin, and Medea. Mr. W. D. Freshfield was second, and Mr. T. Halsted third.

For four distinct varieties, three trusses each, Dr. Seaton was first with a clean exhibit; the varieties were Mrs. J. Laing, La France, Marie Baumann, and Duke of Wellington. The second place was taken by Mr. W. D. Freshfield, who had Helen Keller and Madame Gabriel Luizet, good. Three entries were staged for six blooms one variety. Dr. Seaton secured first for Mrs. J. Laing; Mr. G. A. Hammond was second with Marquise Litta, and Mr. W. D. Freshfield brought up the rear with Souvenir de la Malmaison. Mr. W. Mease was the only exhibitor for twelve bunches of garden Roses, and was deservedly awarded first prize. The best were Perle d'Or, Crimson Rambler, Gustave Regis, Hebe's Lip, and Reine Olga de Wurtemberg.

Early Cauliflowers.

In some years the Cauliflower crop, either from autumn or January sowing, follows so closely on the latest Broccoli that it loses that appreciation which an interval of time invariably brings. Much, however, depends on the season; in some Broccoli mature early, in others later, that is the latest section. When this happens there is likely to be a break in the supply, and particularly when such cold weather intervenes as that so well remembered this year. Autumn sown plants fared very badly, even those sown under sheltering walls, and on narrow borders immediately under forcing houses.

Spells of continuous rains, alternated with severe frosts, made Cauliflowers sown in the open an uncertain quantity. Had frame room been available it would have proved remunerative this spring in giving the needful shelter through the winter. Plants in some years thus treated resulted in a supply when Broccoli was plentiful, and this experience calls forth resolutions to trust to open air treatment, and apply frame space to other crops for meeting winter demands. The early forcing Cauliflowers to some extent dispense with the necessity of autumn sowing, and the risk of getting a crop at the opportune moment. Hand-light Cauliflowers, too, are not so much grown for the same reason.

A combination of circumstances brought about an early maturity in spring Broccoli this year, and the shortness of supply in so many gardens made the season unusually brief in home-grown heads. From Cornwall and the Continent came the usual quantity, and prices ruled high, but these concern town residents more than the owners of gardens, and those responsible for their up keep. It often happens that what is not forthcoming from the garden is done without, but the relations between cook and gardener run the risk of becoming strained, and however unkind the weather fates may have been, this does not have much effect as a defence for the absence of the necessary supply of an everyday vegetable.

The worst persons the gardener has to deal with are those accustomed to market supplies. With them Broccoli and Cauliflowers are the same thing, and when a supply does not maintain itself from one source another is found. Cauliflowers sown in January or February and forwarded in boxes or pots have not been so early in their yield as in some years, at any rate in the West. Up to the time of planting, and, indeed, for some days after, they looked remarkably well, but a change to cold, wintery weather, following a short period of mild days, reversed the progress made. A sharp frost browned the leaf tips, but with a change to genial air and warm rains growth advanced by leaps and bounds, and frost impressions were soon invisibly erased. Results, though later, have been most satisfactory, Cauliflowers in quantity have been available since the first week of June, and of exceptional quality.

Leather jackets, which in some springs destroy so many of the early planted Cauliflowers, have been singularly absent. In turf stacked for indoor work many were found early in the year, and it was feared this would be an intimation of further troubles ahead. Fortunately it did not prove to be so. Daily hand-picking only could save them from slugs which were present in their usual abundance.—W. S., Wilts.

Gardening in Polar Regions.

IN all probability the natural taste for gardening was never more strikingly exemplified than in the case of Saabye, a Danish missionary, who, with his wife, was for many years a resident on the coast of Greenland. According to a contemporary the missionary's house was surrounded by high rocks, which partially sheltered it from the fury of the northern storms and sea; but the mould on the stony soil in its vicinity was not deep enough for any root, and Saabye and his wife were obliged to transport the requisite additions from a considerable distance in a tub, having no other utensil suitable for the service. Thus the first garden in Greenland was formed, and the missionary planted it after the manner of cottage gardens in Denmark, with seeds sent him by the ship that came annually at midsummer. The results of his gardening experience in the Polar regions are curious. It was not till the beginning of July that the frost of the long winter was sufficiently thawed to commence operations; there was then a summer of two months' duration and continual day, and the vegetation being proportionately rapid. Cabbages flourished remarkably well, Turnips grew to the size of a teacup, lost their bitter taste, and acquired an agreeable sweetness; but Saabye's Carrots were never larger than the stalk of a tobacco pipe. Celery and Broad Beans would not grow at all; Peas ran into bloom, but did not set, and the missionary seems to have regarded these as the only flowers of his garden. Yet in that dreary and remote solitude, surrounded by the natives of the north, whose language they were years in acquiring, the devoted exiles found pleasant occupation and familiar memories of their far old home in the spot so hardly redeemed from sterility, and yielding at the best such scanty returns or their labour.

Styrax japonica.

SEVERAL varieties of the officinal Storax, *Styrax officinalis*, have been grown in gardens for many years, and are very ornamental where they succeed, generally producing their white flowers freely against walls or in warm sheltered positions. The Snowdrop or Silverbell Tree, *Halesia tetraptera*, is a near relative of these plants, and the species *Styrax japonica* (fig. 4) is as much entitled to the two former names as the *Halesia*. The pure white, bell-shaped, drooping flowers are very suggestive of Snowdrops both in size and substance, and have a charming appearance. Plants are occasionally exhibited by our leading nurserymen, and are a source of considerable attraction, but the plants



FIG. 4.—STYRAX JAPONICA.

do not seem to attain to that popularity to which their striking beauty undoubtedly entitles them. *S. obassia*, also producing an abundance of white flowers, is extremely handsome, and might well be included amongst the flowering shrubs of every well furnished garden.—C.

My Garden.

A garden is a lovesome thing, God wot!
Rose plot,
Fringed pool,
Ferned grot—
The veriest school
Of peace; and yet the fool
Contented that God is not—
Not God! in gardens! when the eve is cool?
Nay, but I have a sign:
'Tis very sure God walks in mine!

T. E. BROWN.



Hardy Fruit Garden.

Propagating Strawberries.—The earliest plantlets which appear on fruitful Strawberry beds invariably make the best plants wherewith to form new plantations or to place in pots for forcing. Care must be taken to root them early and quickly, so that they receive no check. There are several systems of effecting this. The best methods for early runners consist either in rooting them in small pots, on turves, or on mounds of soil.

In Small Pots.—A sufficient number of 3-inch pots should be prepared. Drain the bottom of each with a piece of fibrous turf, filling the rest of the space with a mixture of loam and decayed manure. As a protection against drying up quickly plunge the pots partially in the soil. It will also keep them firm and steady. Plantlets just commencing to put forth roots are the best. A ready way of securing them is to hold them in position with a stone or secure them with a hooked peg. Water will be required daily, and in very dry weather morning and evening will not be too often. Immediately they are rooted detach the runners and stand the pots closely together on a hard base of ashes, where water can be readily applied. This position must be an open one, so that the growth made may be strong and sturdy. If placed in the shade they may be drawn and weakly.

On Turves.—Portions of freshly cut turf about 3 inches thick and square should be placed, grass side downwards, first thoroughly saturating them with water or liquid manure. The plantlets must be secured upon them in the same way as on pots, either with a stone or hooked peg. All that is required is to keep the roots close to the surface until they take hold. Keeping the surface constantly moist will effect this quickly. There is no necessity to move the turves as soon as the plantlets are established, but the runner wires must be cut. The turves, however, ought to be moved as soon as possible if the application of water to them is inconvenient, and in all cases before roots pass from them into the surrounding soil.

Rooting in the Soil.—This is quite practicable on the outside rows where the runners are less crowded than in the inner spaces between rows. They will, however, root in the latter positions, but cannot so easily be specially treated unless a rigid process of thinning is adopted, which would in the end prove advantageous. Select the best runners, and drawing them on one side lay down some mounds of soil of a rich and holding character. On these fasten the most promising plantlets, and maintain the soil uniformly moist until they are rooted. Having secured a liberal quantity of runners for propagating purposes the rest ought to be cut away, thus leaving plenty of space for those retained, rendering attention to them easy, and admitting abundance of light and air. When stock is not specially required early, necessitating the adoption of some of the foregoing methods, it is an excellent plan to keep the runners well thinned out from the first, and allow them to root in the soil as they like. Good plants will be secured for midseason planting. Lift them as wanted with good balls of soil and roots, and plant at once in a well prepared plot of ground.

Watering Wall Trees.—Although copious rains have fallen and benefited fruit trees in the open, the same assistance may not have been received by all wall trees, hence it is desirable that a copious supply of water should be afforded the roots, especially of those trees which may be bearing a heavy crop of fruit. Lightly fork over the soil previously, so as to present a loose surface for the admission of water. After a liberal supply lay down a mulching of manure. This will prevent evaporation, and before the soil again dries apply a good soaking of liquid manure, or failing that sprinklings of artificial manure, 4 ozs. to the square yard, washed in, forms a good substitute.

Apricots, Peaches, and Nectarines.—The fruit should be finally thinned to a safe number for the trees to carry. Trees in a strong and vigorous condition, which are making wood freely, may have more fruits left upon them than comparatively weakly trees. The fruit has a tendency to subdue extraordinary vigour because of the large demands the developing and perfecting of a crop necessitates. In order to give further assistance to trees in fruit development, a continuous system of regulating growth throughout the season must be adopted. A selection should be made of suitable growths issuing from the base of the present bearing shoots to lay in for the future. These being secured the rest of the shoots are more or less superfluous, and the majority should be gradually removed. Some of the best placed foreright shoots might be shortened to four leaves to be eventually cut back for forming spurs.

Apricots lend themselves to this system more easily than Peaches, and they also form natural spurs, which of course are to be preferred to any artificially produced. The summer growths reserved must be carefully nailed in to the wall. This will admit of abundant air

circulating about the trees, not only for the benefit of the wood but also for the fruit. The most destructive insects which attack the leaves at the latter part of the season are red spider. They may be kept under by freely syringing while the fruit remains green, and after the crops have been gathered, also maintaining the soil moist.

Fruit Forcing.

Cherry House.—After the fruit is gathered the chief object is to secure the due formation or development of the buds without starting them into growth, by keeping the foliage clear of every description of insect pest, syringing abundantly, and if necessary applying an insecticide. Although less moisture is needed than when the fruit is swelling and the trees making growth, yet there should be sufficient to maintain the trees in a healthy condition. Trees in pots from which the fruits are gathered may be placed outdoors in the full sun, plunging the pots in ashes. Water as required to keep the soil moist, and syringe in the evening of hot days.

Cucumbers.—The disease produced by eelworm and that caused by a fungus closely allied to "sleepy," which results in sudden collapse of the leaves, stunting of the fruits, and uselessness of the whole plant, are again playing havoc with Cucumbers. This is due in a great measure, if not altogether, to the conditions of management, the atmosphere of Cucumber houses being kept so moist and close, with a compost full of organic matter in a constantly moisture laden state, as to induce a susceptible to disease condition of the plant and provide the circumstances and substances favourable for the increase of semi-parasitic pests. Both eelworms and "sleepy" fungus revel in organic nitrogen, as found in either dead vegetable substances or living plants rendered susceptible to attack by the cultural conditions forenamed, and singularly they abhor the food elements of green-leaved plants when in the forms only assimilable by these. Nitrates and chlorides, phosphates and sulphates, are no use whatever to saprophytes, semi and positive parasites, until organised. Thus the saprophytes and parasites will be precluded from soils mainly containing the food elements in those forms, hence cultivators have something tangible to work upon as regards both preventive and remedial measures. The old fashioned dressings of lime, wood ashes, and soot have done yeoman service in the past, and are still the best, in conjunction with well reduced manure.

Attention must be given to plants in full bearing by way of thinning out the exhausted growths and foliage, laying in young bearing wood, stopping one joint beyond the fruit, and earthing the roots occasionally. Copious supplies of water or liquid manure will be required about twice a week, or as may be necessary, but avoid applying it too strong. Syringe at closing time, and maintain a good moisture in the house all day long by sprinkling the paths and walks as necessary, always with tepid water, attending to it more frequently in hot weather than when dull. Do not overcrop young plants, or allow the fruit to hang too long, as upon attention to this depends in a measure a good and continuous supply. A few seeds may now be sown for a late summer and autumn supply of fruit. They will germinate, and the seedlings be fit to plant in about a month.

Peaches and Nectarines.—*Early Houses.*—The fruit being cleared off syringe forcibly to eject red spider. This will be facilitated or rendered more effectual by cutting away all the shoots that have borne fruit except extensions, and taking care not to leave more growths than will be required for next year's fruiting. If this be attended to now, little winter pruning will be required. If the roof-lights are movable take them off about the middle of the month. Rain has a peculiarly invigorating effect on forced trees, and the borders become thoroughly moistened in the autumn. The roof-lights must not be taken off until the trees have been inured by free ventilation and the buds are advanced in plumping.

Succession Houses.—With the fruit taking the last swelling, syringe twice a day to keep down red spider, it being important to have the trees quite clean when the fruit commences to ripen, as syringing then spoils its appearance and flavour. Supply liquid manure abundantly to inside borders unless the trees are gross, when it will only aggravate the evil. Mulch the inside and outside borders, keeping the material moist, so as to have the roots near the surface. This, however, will not be any use unless the soil beneath is kept properly watered. Ventilate a little constantly and increasingly with the advancing sun. Maintain the day temperature at 80° to 85° with sun, and close sufficiently early for a rise to 90°, admitting a little air before night. As the fruit approaches ripening ventilate more freely, and do not allow so great a range of temperature, 60° to 65° at night, and 70° to 75° by day being sufficient. Keep water from the fruit, but damp the house, especially on hot days. Tie and regulate the growths, having the fruits well exposed to the sun. Stop laterals to one or two joints of growth, and avoid overcrowding.

Late Houses.—Where rains have not fallen so as to moisten the soil thoroughly down to the drainage a thorough watering should be given outside borders as well as the inside, affording liquid manure to trees carrying full crops. The shoots should be tied down as they advance, not crowding them, but allowing each space for development, as without full exposure to light and air the foliage cannot perform its functions. Stop the laterals at the first joint, and to each succeeding one as made.

Cut back gross shoots or remove them altogether. Ventilate early and freely, and close early, with plenty of moisture in the house, admitting a little air at the top before nightfall, so as to allow the pent-up moisture to escape, and permit the atmosphere to gradually cool, so as to give the trees rest. Syringe forcibly twice a day, but not in dull weather, as it is necessary the foliage be fairly dry before nightfall, and not kept constantly dripping with moisture. If needful apply an insecticide, as under no circumstances must red spider, thrips, or aphides be allowed to make headway. Mulch the borders with some partially decayed manure, but not more than an inch or two thick, and lumpy rather than such as when wet will form a soapy mass.

THE BEE-KEEPER.

Leaving Supers On in Winter.

Is it an advantage to leave supers on the hives during winter, and not remove them before they are filled the following summer? This is an important subject. If the bees do equally well under the above conditions, it is a decided advantage to nervous bee-keepers who have a difficulty in handling their bees, as the sections or other supers may be put on the hives in the summer. Mr. J. Hiam, on page 517, is favourably impressed with this system, having taken off "some beautifully filled sections from a crate left on all the winter." He has his doubts, however, whether the bees worked in them last summer. If they did not, there must have been something seriously wrong in their management, as they were placed on the hive when "honey was coming in freely from the Clover harvest." If they were only partly filled the bees would carry it down during the winter, so the chances are the combs would be drawn out, but perfectly empty when the bees commenced to work in them this spring.

We have tried the system of leaving on crates of sections that were not properly finished off many times, and we have come to the conclusion that it is not an advantage to allow them to remain on the hive throughout the winter and during the following spring. The bees will not cluster in the supers, and the consequence is there is an open air space above the brood nest at a time when a high temperature in the hive is necessary for brood rearing.

An Early Crop of Honey.

As an illustration of what can be done when bees are well managed, we may mention an instance that has recently come under our notice. Before those lines written by Mr. J. Hiam appeared in print we were visiting a bee-keeper in North Yorkshire, who received his first lesson in bee-keeping from us. We were agreeably surprised to find his stocks in such a forward condition. His best stock had three crates of twenty-one sections each on it. One of the crates of sections was well finished off, another nearly so, and the third we considered would be perfectly sealed over in three days. There would thus be a total of sixty-three sections from one colony. This is remarkably good for so early in the season, and shows what may be done under proper management in the county of broad acres. We do not remember such an early crop of honey in any previous season. The chief sources were the Hawthorns and field Beans. The hive was an ordinary bar frame holding ten standard sized frames.

The bees were not fed last autumn, but wintered on their natural stores. Sections were placed on the hive as soon as the bees were considered to be in the right condition for receiving them. This prevented them swarming. Other frame hives were in good condition, and were each working a crate of sections or shallow frames. There had not been any swarms; although a stock wintered in a straw skep was kept for that purpose, they had not at that date, June 12th, swarmed, neither had there been any surplus stored. This fact shows that under good management bees winter equally as well in frame hives as they do in straw skeps.—AN ENGLISH BEE-KEEPER.

Gardeners' Charitable and Provident Institutions.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary.* Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary.* Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

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•• All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *noms de plume* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Unanswered Queries.—Owing to pressure on our space several replies are unavoidably postponed till our next issue.

Planting Box Edging (H. T. H.).—Cuttings made of the young shoots from 4 to 6 inches in length, inserted in a shady place in August or September, root readily. Slips, however, do not root so freely, and it is desirable for edging that each piece of Box have roots, so as to form an even edging. If you use slips plant them firmly in September during moist weather, leaving only a little of the green part above ground.

Tomato Leaves Curling (A. A. T.).—The midribs and veins of the leaflets are browned as if rusted, but we failed to discover any insect or fungoid pest, and can only attribute the curling to some corrosive substance which has settled along the sides of the midribs and veins, thus affecting those parts more than other portions of the leaves. The raising of the temperature to 100° on two occasions would not affect the midribs in the manner presented, scorching, if any, occurring on the thinner portions of the leaves. The top-dressing of artificial manures could do no harm unless applied excessively. Possibly the emulsion applied to the leafage has been too strong, the foliage of the Tomato, from its hairy nature, being very susceptible to injury.

Figs Cracking (W. M. M., Ross-shire).—The fruits were almost all to a mouldy pulp, but the names are probably correct. We consider they were too ripe for travelling, and this accounts for the complaints of not carrying well. The fruits for travelling should be gathered when somewhat under-ripe, then, carefully packed, they have a chance of arriving at their destination in good condition. Cracking is usually induced by a somewhat vigorous habit of the trees, and is accelerated by the maintaining of a rather close and moist atmosphere at the time of ripening. In such cases it is advisable to somewhat lessen the supplies of water during the ripening process, and withhold water altogether from the fruit. Damping may occasionally be practised, but then it should be with air, and a gentle warmth in the hot-water pipes. In the case of trees having an unlimited run of border it is sometimes advisable to have recourse to root-pruning, with a view to check over-luxuriance, and to reduce the tendency to cracking in the fruit.

Roses not Satisfactory (Amateur).—If the strong growths of Belle Lyonnaise are trained thinly—that is, so that the leaves of one do not overlap the other, nor those of any other shoots, the wood will in all probability ripen, and flowers follow next year if the shoots are not shortened beyond removing the soft green tips. If you have a sufficient number of medium yet not weak shoots for covering the space, the very luxuriant may be removed in their favour. This is not one of the most floriferous Roses, but produces beautiful blooms, when somewhat strong shoots are thinly disposed for the maturation of the wood. The best course to adopt for inducing the Maréchal Niel to bloom freely is to cut out weak parts and thin shoots, and secure the stronger growths thinly as above advised. Your tree ought to have been cut back sooner, and we are not sure that the young growths would have time to ripen for flowering next year if it were cut down now. If there are several stems near the ground some of them might, perhaps, be shortened, and yet leave sufficient growths for the wall above; as a rule these are greatly overcrowded.

Stephanotis not Flowering (S. H. G.).—There are forms of this plant that do not flower freely, though making plenty of wood and being perfectly clean and healthy. In some cases, however, the plants do not flower because the growth is made under a shaded roof or at a considerable distance from the glass. It is not good practice to supply water too liberally whilst growth is being made, or indeed at any time, as flowering largely depends on a sturdy, thoroughly solidified habit, with a good season of rest during the winter.

Collection of Hardy Herbaceous Flowers (J. F. S.).—Iceland Poppies and Liliums would certainly be admissible, also Sweet Williams, but we do not consider blue Cornflower and Sweet Peas would be allowed, as they are annuals. The term herbaceous applies to perennials, whether evergreen or deciduous, and this embraces bulbous plants, though they may be excluded when a class is provided in the schedule for them.

Apples Eaten by Insects (Loughgall).—The Apples are eaten by some insect or its larvæ, but in the absence of specimens we are unable to give its name. The remedy would have been to spray the trees with Paris green, 1 oz. to 20 gallons of water, and it may be done now to prevent further mischief, though it is rather late, as the poison will get washed off by rains. The Paris green mixture must not be used over anything shortly required for use by either men or animals, as it is very poisonous.

Growths of Vines Browned (R. M. D.).—The leaves are affected by what is known as browning or "brunnure," which practically arises from some constitutional peculiarity, and is rather peculiar in confining its attacks to young Vines, or, rather, the tender growths. It probably results from an excess of organic matter in the soil and a deficiency of lime. A dressing of air-slaked lime and soot in equal parts, mixed and applied at the rate of half a pound per square yard, pointing in very lightly, has a beneficial effect, the Vines generally growing out of the disease. It is also a good plan to dust the foliage by means of a bellows apparatus with a powder formed of equal parts of freshly burned lime slaked with the smallest quantity of water necessary to cause it to fall to an apparently dry powder, then while hot adding flowers of sulphur and mixing thoroughly. It is a very troublesome ailment, but happily not very common in this country.

Cultivation of Poinsettias (Constant Subscriber).—After Poinsettias have finished flowering the plants ought to be rested and dried off in a temperature of 45° or 50° for two or three months, then either cut down the stems or start them into growth. If the latter plan is adopted take off the side shoots with a heel of old wood. Do this before they grow longer than 3 inches, and insert them singly in 2-inch pots, using fine sandy soil, plunging in a bottom heat of 85°. When rooted well pot on into 4-inch pots, using a gentle bottom heat to establish them. Subsequently pot into 6-inch pots in a compost of loam, leaf soil, sand, and manure, and when well established place the plants in a frame or pit, affording due supplies of water and shade from strong sun. House in September in a temperature of 55°, with plenty of light and air. Increase to 60° or 65° later on. When flower heads appear feed with weak liquid manure. In propagating the old stems these may be cut down in April. Cut into short lengths with two joints, and insert in sandy soil in hotbed. The old plants after being cut down will break into growth and should be repotted, treating them afterwards as advised for cuttings. The shoots of your plants will now be too far advanced to form into cuttings, so your best plan will be to grow on the plants as they are, moving them into larger pots if necessary, establish well, then transfer to frames until September. They will not be so dwarf as they ought, but with good treatment will prove useful. If you have a suitable bed or border at the foot of a sunny back wall in the stove, it would be an excellent plan to plant them out, fine bracts being often produced in this way.

Imported Dendrobiums (D. T. E.).—As soon as the imported plants are received they should be carefully sorted and each kind placed by itself, decaying and decayed pseudo-bulbs and roots being cut off with a sharp knife, all sound portions of both pseudo-bulbs and roots being retained. They should then be carefully washed all over, removing decayed vegetable matter from amongst the roots, and keeping a sharp look out for and removing all insects that may be upon them. As you refer to Dendrobiums in particular, most of the pieces may then be placed in as small pots as possible, using clean pots and crocks; the former should be about three parts filled with the latter, using a layer of sphagnum over all. The most important point is to keep the base of the pseudo-bulbs well elevated above the rim of the pot from three-quarters of an inch to 3 or 4 inches, according to the size of plants and pots used. The interstices between the roots and the sides of the pot may advantageously be filled with sphagnum and fibry peat, sticks should be placed firmly in the crocks to which the plants can be tied securely. The operation of potting being completed, the Dendrobiums should be placed in a position where they can have a genial temperature of from 60° to 70° (a higher temperature before new roots are formed is to be avoided). A mat or some other material may be kept over them for a few days whilst the plants become inured to the light, but as the pseudo-bulbs "plump up" and the young growths lose the bleached appearance the shading should be gradually dispensed with until it is only used to prevent scorching. A few of the dwarfest species would be better fixed on to blocks with copper wire, and a little moss placed about their roots, but most of the other species we find to do the best when treated as described.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (S. T. W.).—1, *Lysimachia vulgaris*; 2, *Dictamnus Fraxinella alba*; 3, *Linaria bipartita*; 4, *Tradescantia virginica*; 5, *Campanula trachelium*; 6, *Geranium nodosum*. (R. R.).—1, *Phlebodium aureum*; 2, *Asplenium bulbiferum*; 3, *Cheilanthes hirta*; 4, *Davallia canariensis*; 5, *Adiantum gracillimum*; 6, *Doodia aspera*. (F. H.).—1, *Corydalis lutea*; 2, *Lychnis chalcidonica*; 3, *Spiraea filipendula flore-pleno*; 4, *Acer negundo variegata*. (T. C. M.).—1, *Geranium atro-sanguineum*; 2, *Veronica spicata*; 3, *Sedum spurium*. (Kent).—The specimens were quite withered; please send fresh ones.

Covent Garden Market.—July 4th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, Tasmanian...	8 0	18 0	Grapes, black ...	1 0	3 0
Apricots, box ...	0 8	1 3	Lemons, case ...	10 0	30 0
Cherries, box ...	0 9	1 3	Melons, house, each	1 0	2 0
„ ½ bushel ...	5 0	10 0	Oranges, case ...	10 0	25 0
„ ¾ bushel ...	3 0	6 0	Pines, St. Michael's, each	1 0	6 0
„ Dutch Duke, ½ bushel	4 6	5 6	Strawberries, bskt. 4 to 6 lb.	1 3	2 0
Currants, Black, per lb...	0 0	0 3	„ peck ...	4 6	6 0
Gooseberries, ½ bushel ...	1 3	1 9	„ home grown, doz.	8 0	12 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	2 0	Mushrooms, lb. ...	0 6	to 0 8
Asparagus, green, bundle	0 9	3 0	Mustard and Cress, punnet	0 2	0 0
Beans, Long Pods ...	2 0	3 0	Onions, bag, about 1 cwt.	5 6	6 6
„ Jersey, lb. ...	0 6	0 9	„ Egyptian, cwt. ...	6 0	0 0
Beet, Red, doz. ...	0 6	1 6	Parsley, doz. bunches ...	2 0	4 0
Cabbages, tally ...	5 0	7 6	Peas, Jersey, lb. ...	0 9	1 0
Carrots, new, bunch ...	0 3	0 6	„ English, per bushel	3 0	5 0
Cauliflowers, spring, per dozen	1 3	4 0	Potatoes, cwt. ...	5 0	10 0
Celery, bundle ...	1 0	1 9	„ new Jersey, cwt. ...	10 0	12 0
Cucumbers, doz. ...	2 0	4 0	„ Teneriffe, cwt. ...	12 0	14 0
Endive, doz. ...	1 6	2 0	Radishes, long, doz. ...	0 6	0 0
Herbs, bunch ...	0 2	0 0	„ round, doz. ...	1 0	0 0
Leeks, bunch ...	0 3	0 0	Shallots, lb. ...	0 4	0 0
Lettuce, doz. ...	0 6	0 0	Spinach, bushel ...	2 0	3 0
„ Cos, score, from	0 6	2 0	Tomatoes, English, doz. lb.	3 0	5 0
Mint, green, doz. bunches	2 0	0 0	Turnips, new ...	0 4	0 8
			Vegetable Marrows, doz. ...	4 0	6 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Arums ...	2 0	to 3 0	Odontoglossums ...	3 0	to 7 6
Asparagus, Fern, bunch...	2 0	2 6	Pelargoniums, doz. bnchs	4 0	6 0
Carnations, 12 blooms ...	1 0	2 0	Pæonies ...	12 0	0 0
Cattleyas, per doz. ...	12 0	18 0	Pyrethrum, white, doz.		
Eucharis, doz. ...	4 0	8 0	„ bunches... ..	2 0	3 0
Gardenias, doz. ...	2 0	3 0	„ coloured, doz. bnchs	1 6	2 0
Geranium, scarlet, doz.			Roses (indoor), doz. ...	3 0	4 0
„ bnchs. ...	6 0	9 0	„ Red, doz. ...	1 0	2 0
Lilium lancifolium album	3 0	4 0	„ Safrano, doz. ...	1 6	2 6
„ rubrum	3 0	4 0	„ Tea, white, doz. ...	2 0	3 0
Lily of the Valley, 12 bun.	8 0	18 0	„ Yellow, doz. (Perles)	2 0	3 0
Maidenhair Fern, dozen			„ Maréchal Niel, doz.	6 0	12 0
„ bunches... ..	4 0	6 0	„ English:—		
Marguerites, doz. bnchs.	2 0	4 0	„ La France, doz. ...	2 0	3 0
„ Yellow doz. bnchs.	2 0	4 0	„ Mermets, doz. ...	3 0	8 0
Mignonette, doz. bunches	2 0	4 0	Smilax, bunch ...	4 0	6 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acacias, per doz. ...	12 0	to 24 0	Ficus elastica, each ...	1 6	to 7 6
Arbor Vitæ, var., doz. ...	6 0	36 0	Foliage plants, var., each	1 0	5 0
Aspidistra, doz. ...	18 0	36 0	Genistas, per doz. ...	8 0	15 0
Aspidistra, specimen ...	15 0	20 0	Geraniums, scarlet, doz. ...	6 0	10 0
Azaleas, various, each ...	2 6	5 0	„ pink, doz. ...	8 0	10 0
Borolias, doz. ...	20 0	24 0	Hydrangeas, white, each	2 6	5 0
Orotons, doz. ...	18 0	30 0	„ pink, doz. ...	12 0	15 0
Dracæna, var., doz. ...	12 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna viridis, doz. ...	9 0	18 0	Marguerite Daisy, doz. ...	8 0	10 0
Erica various, doz. ...	8 0	18 0	Mignonette, doz. ...	8 0	12 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Spiræas, per doz. ...	8 0	12 0



Wool for Clothing.

THE English farmer is essentially many-sided—he could not carry on his business at all did he not have so many irons in the fire. Of course cavillers will say the fire may get low, or even go out, whilst the irons should be heating; that may be so, but the farmer does not stand alone in that respect, he has to take the risk.

It is wonderful what a part wool plays at the present day. We, wiser than our ancestors, do not insist on a shroud of wool for our dead bodies, we prefer to have the woollen garments in our lifetime. and by that means we defer the period when a shroud becomes necessary. It was the exception, not the rule, fifty years ago to find a person with flannel underwear, partly because flannel was dear, was not fashionable, was considered clumsy, and, above all, the doctors had not begun to preach of its hygienic properties. Now all this is altered, and the shops, summer as well as winter, are full of seasonable garments to suit all ages and all purses. We suppose it is a well known and accepted fact that woollen underwear is even more necessary in summer than winter; and it is a great fallacy to suppose that with the warm days we may safely cast our lamb's wool and merino. Lessen the thickness a little if you will, but if you have the least respect to your health, never discard it entirely. Now one would naturally suppose that with an increasing population, and an educated population (hygienically), that the demand would exceed the supply, and that in consequence wool growers would be reaping a glorious harvest. Not so, as in everything else, given the demand, the supply comes quickly to market. One would almost think that somewhere a breed of sheep had been invented that would bear the shears two or three times a year, such is the immense quantity of wool which fills our markets.

We have some very unpleasant facts to face. There are among us those who remember the good old times of the seventies when Lincoln hogg wool touched the pleasant total of 2s. 1½d. per lb., in fact we remember 2s. 6d., and that half crown totted up to a good round sum where a goodly flock of sheep was kept. Clipping time was a time of feasting and gladness. There was a sort of harvest supper for the men, and probably another good supper for the farmer and his guests. This year of grace the beginning of a new decade, shows us wool in March at 1s., that was for Shropshire and Southdown. In June the price has gone down 1½d., and the highest quotation for Lincoln is 8½d. This is not a very cheery look out, and apparently at present there is not much hope for any betterment. Oh, those colonies and these sheep growing countries have much to answer for!

If anything our wool crop is smaller than it was in 1874. The figures are thus:—34,837,597 sheep in 1874 as against 31,680,225 in 1899. By careful selection and attention to breeding we have increased the weight per fleece, so that we might almost consider our wool production stationary. The old proverb says "It is not lost what a friend gets," and there is no doubt our Australian brethren are taking a good bit of solid English gold in exchange for their fleeces. They are growing and sending us a lot of their cross-bred, which is better adapted to many purposes than our own longer stapled wool.

In 1820 we received	99,415 lbs.
„ 1840 „	9,721,243 „
„ 1880 „	300,240,128 „
„ 1895 „	541,394,383 „

They have by no means yet exhausted their resources. It is not all one-sided this wool trade; if they have knocked our wool market down, they have also been good customers at our high-class

ram and ewe sales. They must continually have fresh blood from the "old country" or the wool deteriorates quickly.

It is wonderful the change the last few years have made in the wool imports. At one time it was a case of all merino, but with the merino wool came inferior mutton, so our friends in New Zealand and the River Plate turned their attention to converting their merino into cross-bred, and the percentage of cross-bred wool we get from those counties is 45.6 per cent, as against 17.2 per cent. in 1889, and the percentage of merino is still on the down grade. All this affects, and affects greatly, our home trade, and there does not seem at present any prospect of a material rise. Bradford, which sends the big buyers out, sends them out singly, and they are not prepared to tempt us by price.

There was a "boom" in the merino early in the spring, and we were struck by the way in which the retail dealers took advantage of it. It seemed a preposterous thing that ordinary knitting wool should, on account of the slight rise, go up halfpenny per ounce, and that fine mending varieties should go up halfpenny per half ounce. We saw no reason in a 25 per cent. lift, but for these two commodities we are perfectly at the mercy of the shopkeepers. It would be rather a delicate question to ask who is getting the profit. We can never believe there was a real need for such an advance. The ladies are not likely to strike, and they are the principal folk concerned. Fair or free trade may be a jewel, and we are not the people to wish to stand in the way where warm and cheap clothing is concerned, but we still think it rather hard that the letting in of all this colonial wool to flood our markets should not have free access to the American markets. Our wool is welcome there for its sound characteristics, but, alas! the heavy tariff badly handicaps us. This seems hardly fair, but it is one of the things we have to "grin and bide."

We grow so many varieties here, and we also grow the heaviest fleeces in the world, but our climate and soil cannot produce that peculiar quality of staple now in demand by manufacturers. We cannot, poor as trade is, advise our farmers to hold. It is not a wise thing, speculation in wool; like many other forms of speculation, it so often fails to "come off," and there is always more or less risk. Moth and rust may corrupt, damp is a great danger, rats are greater, and fire the greatest. We had a striking instance of that last year, when a friend's accumulated clip of five years was consumed in a few hours.

There has been one pleasant thing about sheep this year. Mutton has touched a higher point than it has done for some time; but that has not been all profit, as owing to the almost entire failure of the Turnip crop much and expensive hand food has had to be found from somewhere. It would be pleasant to hear of the old quotations again, and a boom just now in the wool trade would be a wonderful help to us all. We want something to assist to pay the advance in the wage of the agricultural labourer; we do not grudge him his advance, but we should be happier if we knew where we were to find it.

Work on the Home Farm.

Five days ago we saw the Turnip drill at work, and now where we sit can see the green lines of young plants; this is almost as quick as is possible out of doors, and with such a splendid start there can be no doubt about the result.

The warmth and showers of the past week have done wonders for all crops. Wheats and Barleys are lengthening in the straw, and will now be full average crops, if not over. Oats are still rather short, but the showers are giving them every chance to improve. Clover and hay are too near maturity to benefit so much.

There is high pressure on every farm; a neighbour having put off Wheat threshing for lack of time and men has just delivered 250 quarters at 26s. 9d., sold three weeks ago. Present price 31s. 6d.; loss 4s. 9d. per quarter. He has some more and would like to thresh, but there is too much other work on hand. A 52-acre field of Potatoes planted late requires much weeding. Mangolds are not yet done with and Swedes are ready to hoe—i.e., no time now for threshing. He was fortunate enough to have very good Turnips in this 52-acre plot, and was enabled to keep his sheep until they reached the top price, but was thrown late in getting his Potatoes in, and now is suffering in another way. The Potatoes look fairly well where the Turnips were moderate and the sheep were not on the ground long, but where the land was well trodden

they look badly, showing that texture has often a greater influence in the early stages of a crop than has manure.

The proper completion of summer work with the present force before harvest seems an impossibility, and a few good Irish labourers would be welcomed throughout the arable districts. They have been so much discarded of late in favour of string binders that they will require some special inducement to come over, but we see there is an organisation in Dublin for supplying Irish labour to English farms, and if they could be found in regular work from now until mid-September at Turnip hoeing and harvest, they could earn 5s. per day at picking Potatoes in Lincolnshire and South Yorkshire for a month after that.

Yearling seeds are still poor herbage, but many two-year-old pieces are very full of meat and white with Clover flowers. Grass pastures, too, are satisfactory, so for the first time since October plenty prevails amongst flocks and herds.

The local foal shows are about to commence. Foals have done well, and there is more than the usual percentage of promising ones. Wonderful, indeed, has been the improvement in farm horses since the Shire Horse Society was inaugurated in 1879.

Sugar Beet.—At a recent meeting of the Sugar Beet Committee of the Central Chamber of Agriculture, Colonel Victor Milward, M.P., in the chair, it was decided to make arrangements for a series of not less than twenty experiments in the growth of Sugar Beet in different parts of Great Britain and Ireland during the forthcoming season, each experimental plot to be at least 1 acre in extent. It is proposed that of the twenty experiments about twelve should be located in England, four in Scotland, and four in Ireland. As in certain cases previous experiments have demonstrated the value of Sugar Beet for the feeding of stock independently of the value of the root for the manufacture of sugar, this point will be specially kept in view in the proposed experiments of the present year.—("North British Agriculturist.")

Women Farmers.—It is said that out of the 17,000 farmers in Kansas, 5000 are women, and mostly American women, too, with nearly the same proportion in Oklahoma. It is with them as with the men, some of them work almost daily in the field, and others depend more upon hired helpers whom they oversee and direct. The great interest in farming taken by the young women in some of the younger States is manifested by their presence at dairy schools, meetings of dairy, horticultural and poultry associations, and even stock-breeding associations, and some of them are among the most successful farmers, either in mixed farming or specialties, that can be found. They are not restricted to old methods of past generations, but are ready to accept modern improvements and modern ideas, while they have a habit of thoroughness in what they undertake that is lacking in many men.—("American Agriculturist.")

Essex Farmers in Denmark.—We are informed that the tour arranged by the Essex Technical Instruction Committee for Essex dairy farmers to visit Denmark, in order to examine the organisation and practice of the agricultural industries of that country, has been a complete success. The party consisted of thirty, and included practical farmers from Essex and some of the county staff from the Technical Laboratories at Chelmsford. The first visit the party made on their arrival in Denmark was to the Danish Co-operative Butter Factory at Esbjerg, and the full programme included visits to the Agricultural School at Lajebund, the People's High School at Askev, the Experimental Windmill and Field Experiment Station, the Margarine Factory at Veler, the Co-operative Dairy at Odense, the Milk-freezing establishment at Marsley, the Agricultural School at Dalum, the Co-operative Bacon Factory at Odense, the estate of Count Moltke Bregentved, and the Agricultural College of Copenhagen. The information obtained was of a practical and useful character, and the visit proved a great success from an educational point of view. Mr. W. W. Green, as member of the Essex County Council, acted as chairman of the party.

More Experiments.—Records of experiments published in the first half of the year, relating to the preceding season, have become almost too numerous for individual notice. We have received one report by Professor Winter of the Agricultural Department of Bangor University College, relating to experiments on Swedes, pasture, Charlock, and live stock. Experiments on Swedes last season were to a great extent spoilt by the drought and the "fly," and the differences in the results in North Wales were small. A useful trial, still in progress, is directed to the determination of the most profitable quantity of basic slag to apply to grass land in the district. The results, so far, are in favour of 5 cwt. per acre. High-grade slag had no more effect than low-grade—a curious result. A second report is from Professor Campbell of the Yorkshire College, showing, with other results, the importance of potash for Swedes in the district of the trials, when no farmyard manure is applied. No gain in yield was obtained when 2 cwt. sulphate of potash were added to farmyard manure and artificials. Indeed, there was a decrease. But the same addition to artificials without farmyard manure gave an increase of 30 cwt. per acre.—("Agricultural Gazette.")

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Roses in the Past and Present.



It is one of the privileges of old age which our juniors will not grudge, that we are permitted to look back on the past and record the changes which have taken place during a longer or shorter period as the case may be. The wonderful progress that has been made in our country during the last half century has been manifested in the realm of horticulture as well as in other places, and in none of its departments has a greater advance been made than in Roses.

I am not one of those who sigh over the past and think that "the good old times" were really what they professed to be, nor am I at the same time willing to back up all the pretensions of those who claim to be so much better than their fathers. We are sometimes challenged by those who say, "Was there any enthusiasm in the past equal to that which now prevails among Rose growers?" I say decidedly, Yes! I can recall to mind that on a certain memorable occasion two rosarians, the one an amateur the other a nurseryman, chartered a special train to bring up their Roses from the West of England to the metropolitan show at the Crystal Palace, and that one of them won the coveted prize, the 50-guinea cup.

I can likewise recall the fact that a friend going down to a provincial show did not arrive at the railway station until so late that even the rooms at the station were locked, and there was no hotel at which he could take refuge, and that he had to sleep as best he might on his show boxes arranged on the platform. I remember also one of our champion growers travelling all night from Exeter to Norwich (no slight journey) and triumphantly carrying off the prize for forty-eight blooms, to the astonishment of those who asked, Was it possible that these flowers, so bright and fresh, could have travelled so great a distance shut up in a railway truck?

I call to mind, too, that I once stayed at the home of a friend in the north during the show season, and as he was an enthusiastic exhibitor

the whole house was enlisted on his behalf, and many of its inmates roused at unearthly hours because the master was down for some exhibition. I do not mean to say that there are not as great enthusiasts now, but when they want me to believe that the zeal on behalf of Roses is greater than it used to be I say, No; the stream is wider, I am glad to admit, but it is *not* deeper.

There is another fact that we ought to bear in mind in thinking over past and present, and that is the source from whence our new Roses are obtained. In those bygone days our eyes were eagerly directed towards France. There were but few Rose growers who raised seedlings, and the great bulk of our novelties came from France. Then the French lists of new Roses were eagerly scanned, many high expectations were formed, and many disappointments experienced; but still the best of our new flowers came from there. Now the case is much altered since the late Mr. Henry Bennett set an example which has been followed by others, especially by Messrs. Alexander Dickson & Sons of Newtownards. To them we are indebted for so many valuable flowers; in fact, many of our best flowers are of home origin.

Another point of contrast is the taste which has arisen of late years for what are called garden Roses. Under this term we must include the hybrid Sweet Briars originated by Lord Penzance and the single Roses which our forefathers despised, but which the present fashion has brought into so great prominence. Lord Penzance's flowers are a great charm in themselves, and combined with their fragrant foliage, make the most desirable plants for the Rose garden; but it must never be forgotten that they are evanescent in their character and are not perpetual blooming.

As far as exhibition Roses are concerned, I do not think there has been much advance. In looking back fifty years, I find that we had then such Roses as Général Jacqueminot and Sénateur Vaisse, and that in the following decade Alfred Colomb, Baroness Rothschild, Camille Bernardin, Charles Lefebvre, Comte Raimbaud, Dr. Andry, Horace Vernet, Louis Van Houtte, and many others were sent out; while amongst the Teas and Noisettes we have that grandest of all yellow Roses Maréchal Niel (1864), Catherine Mermet (1869), Niphetos (1844), Souvenir d'Elise Vardon (1854), Souvenir d'un Ami (1846); and therefore I am constrained to say that if you could possibly see some of the boxes that were exhibited in those days, we should find that in brilliancy of colour and correctness of form the Roses of those days were equal to those of the present. In one respect there has been an advance, I mean in size; whether this is an unmixed good I think is questionable. Large size very often means coarseness, a very serious fault in a Rose, though also I think it is in many cases a sign of better cultivation; and that although the same Roses may be shown now as formerly, many of them have increased in size without losing quality, and of course a full sized Rose is a more beautiful object, provided, as I have said, its quality is not lowered.

Other changes I notice are the superior manner and greater care with which the flowers are put up. Various attempts have been made to alter what I call the orthodox method of showing, but none of them have taken with the public, and a stand covered with green moss would seem the most effective way in which they could be exhibited. But we no longer see those untidy boxes which used to make one wish we could put them under the stage, and how very seldom now do we see duplicates. When anyone has many boxes in different classes it is very easy for him to make mistakes. He changes a Rose just before the time for the judges, and forgets to change the label, but there used to be cases for which no such reason could be assigned. Do I not remember at a provincial show where three Marie Baumanns were shown under different names, the exhibitor himself having no knowledge of it, and his gardener not being overscrupulous.

The introduction of Mr. Foster's tubes and labels has not only materially improved the neatness of the stands, but has enabled the looker-on to see the names much better; they used to be written on little slips and placed on the stand in front of the Rose, but when the eaf or something else covered the labels it was impossible to see the

names; now they are raised above the board, and are not liable to be detached.

I do not think it is difficult to assign the cause for the increased popularity of the Rose; we see, for instance, the vast amount of literary work connected with the subject; small comprehensive treatises are from time to time brought before the public, while our chief gardening papers vie with each other in giving prominence to the subject. I have at present before me notices of three of our leading gardening papers informing the Rose world that they will have a special number this week which will be almost exclusively devoted to the Rose. Surely one may well ask, What more can be said on the subject? The chief incentive, however, to Rose growing and Rose exhibiting has been the establishment of the National Rose Society. This has had a varied existence; it has held its exhibitions in different places, but for many years it has made the home of its metropolitan exhibition at the Crystal Palace, and when we see upwards of 400 exhibits, and upwards of a hundred exhibitors that are there gathered together, we may well say that Rose showing has made a great advance.

The publications of the National Rose Society, touching as they do on almost every point of Rose growing, have materially aided in this development of which I write. These small treatises pass under the eyes of the most experienced growers, both amateur and professional, in the country, and therefore come with a greater amount of authority, and no one need now be at any loss to know the best method of cultivation or the best kinds to select. And what openness there is amongst Rose growers nowadays; they do not attempt to hide from one another or from the public what their methods of cultivation are, and are even glad when those to whom they have given instruction outstrip them.

Of course there is a sad side to all these things; the reflection, how many of those associated with us have passed away! Let us, however, be thankful for those who still remain. Moreover, the sons, and even the grandsons, of those we knew in earlier days are now with us, many of them as enthusiastic as their forbears were; and though perhaps they consider some of us are rather moss-grown, yet always rejoice when we pass on to them the pleasing traditions bearing upon those who have gone before. I see no signs of diminution of interest, and if the National Rose Society can hold on its way I believe that the years to come will bring with them a rich fruition.—D., Deal.

The Standard Brier as a Stock for Roses.

WHENEVER I find a difficulty in growing any Rose I always try budding it on a standard Brier, and more often than not it succeeds with me better than as a dwarf. I am well aware that great objections have been raised to standards in recent years. It is said, for instance, that to grow Roses in this way is unnatural, and that the plants are consequently short-lived, that they suffer considerably more than dwarf plants in anything like a severe winter, and that they throw up a large number of troublesome suckers. These indictments are no doubt in a general sense only too true, so much so that if I wanted to encourage any amateur to begin Rose growing I should never recommend him to start with a collection of expensive standards, for added to the above objections they are much dearer to buy than dwarf or bush Roses.

Nevertheless, properly used, the standard Brier, on soils which suit it, is, in my opinion, an admirable stock. For instance, if any strong growing variety of Hybrid Perpetual, such as Duke of Edinburgh, Her Majesty, or Ulrich Brunner, is found to run more to weed than to flower, it need only be grown as a standard to correct this unfortunate habit. In cases like this, the flow of sap is to a certain extent checked, and flowering growths are encouraged. On the other hand, if the Teas or Hybrid Teas received similar treatment, the result generally is increased vigour in the variety budded on the standard.

stock. So that while keeping within reasonable bounds the extra strong grower, it seems to impart additional strength to certain classes of Roses of naturally weak growth. The mistake made in ordinary gardens is to purchase varieties as standards, which are altogether unsuited for such a stock. The best varieties to select for such a purpose are vigorous growing Roses, many of which make capital heads. Even some of the so-called climbing Roses will form admirable standards. I may mention here a few sorts which I have myself found to be especially well suited for this stock:

Hybrid Perpetuals.—Duke of Edinburgh, Madame Gabriel Luizet, Ulrich Brunner, and Mrs. J. Laing. *Hybrid Teas*.—La France, Caroline Testout, Marquise Litta, and Augustine Guinnoisseau. *Bourbon*.—Mrs. Paul. *Teas*.—Maman Cochet, Marie Van Houtte, Souvenir de S. A. Prince, and Madame Pierre Cochet. *Noisette*.—L'Idéal. *Chinas*.—Laurette Messimy and Madame Eugène Resal. *Climbing Roses*.—Crimson Rambler, W. A. Richardson, and Bouquet d'Or.

When the Brier and Rose work well together standards will often last for a great number of years. I have, for instance, a standard

can be obtained, standards form delightful objects, and with due care in the selection of varieties, and in securing them on young vigorous stocks, their growth should, in my opinion, be encouraged.

Standards possess the further advantages of raising the flowers well out of danger from splashing rains, and in bringing them more on a level with the eye. To produce the best effects all the weak and decayed wood should be removed in the spring, and the remaining shoots shortened from one-half to one-third of their length according to the vigour of the variety.—E. M., *Berkhamsted*.

Garden Roses.

I AM staying at Scarborough for a few days before the Crystal Palace Show, and left my Roses in good health but backward. I have had many Teas killed and severely wounded by frost. I should very much like to write an article on "Garden Roses" at the present time, but I am so busy and have so many things to look after, that I have



FIG. 5.—"GARDEN," OR DECORATIVE ROSES—GIRDLESTONE MEMORIAL PRIZE.

H.P. in my own garden which, after twenty years of service, was at the end of that period as strong as could be wished. But, as a rule, after some years they gradually lose their vigour and require to be renewed. In fact, it is a good plan to remove altogether any standard which is found in the autumn to have made unsatisfactory growth during the summer, and to plant a new one in its place, for Roses so grown have not, as a rule, the recuperative powers of bush Roses.

An exhibitor's garden has mostly a flat and uninteresting appearance when none but dwarf plants are grown in it, but if only standards are here and there introduced it is surprising how greatly the general effect is improved; I even go so far as to recommend in such cases that among the Hybrid Perpetuals and Hybrid Teas be grown standard plants of such decorative varieties as W. Allan Richardson, Beauté Inconstante, Laurette Messimy, and Madame Eugène Resal, as in this way fresh colours are introduced into the collection, which are needed to relieve the monotonous lines of pinks and crimsons generally to be met with in such collections.

I have tried to state fairly in a few words the advantages and disadvantages of growing Roses as standards, and am afraid I have left the impression that the latter greatly predominate, as, no doubt, in a general way they do. Nevertheless, where strong vigorous heads

hardly time to be amongst my Roses as much as I should like. I notice one of your contemporaries recently made such an attack on my special favourites that I should like to veto the allegation that they (i.e., garden Roses) are receiving more than their due share of notice at the present time. I grow exhibition Roses (H.P., H.T., T. and N.) in great numbers, and I grow garden Roses extensively, and not being "in the trade" I can say from quite an independent standpoint, which ought to carry weight, considering I have had some little experience amongst garden and exhibition Roses, not only in the garden but in the show tent, that garden Roses get a greater share of attention from ladies and others at our National Rose Society and other big shows than any other class of Roses exhibited.

"If she be not fair to me, what care I how fair she be," is my motto in Rose growing. I grow, in quantity, varieties that my soil and northern climate suit, and when I advise everyone to add garden Roses, that I venture to say are worth growing, to their collections, I am, without fear of contradiction, doing a kindness, not only to those to whom I volunteer the advice, but also to the trade growers who cultivate them for sale. I am confident that garden Roses, such as Crimson Rambler, Perle d'Or, Gustave Regis, Laurette Messimy, Madame Pierre Cochet, Madame E. Resal, Cecile Brunner, Gustave

Regis, Madame Pernet Ducher, Gloire de Polyantha, W. A. Richardson, with the lovely single Roses Bardou Job, Macrantha, and scores of others I could name, will increase in popularity as time goes on, both in the garden and in the show tent. I advise everyone to grow them, and to hope, if they become exhibitors, that the committees of the great Rose and Horticultural Societies of Great Britain and Ireland will, when forming their prize list, give this class of Rose the attention it deserves. I hardly think that the Royal Horticultural Society offers prizes half substantial enough to induce exhibitors from any distance to compete at the Drill Hall, Westminster, when we take into consideration the expense of time, trouble, and money—not including the detraction from the beauty of one's Rose garden—entailed in cutting, staging, and conveying eighteen or thirty-six distinct bunches of beautiful garden Roses, amongst others, in these days of excessive railway rates, to shows 150 miles away, and similar to those held at the Drill Hall, to compete for a 30s. or £3 first prize eighteen or thirty-six bunches of lovely flowers!—H. V. MACHIN, *Gateford Hill*.

The Nature of the Beast.

It must be several years since I wrote to the Journal on this subject, a matter in the judging of Roses, in which I found that I differed from some of my confrères, and whereon I sought to obtain a consensus of opinion. As far as I can remember there was no answer to my letter; the matter has never been argued, that I know of, before the N.R.S. One of the N.R.S. regulations seems to favour my view, and one to be against it, and I have lately gathered that some first-class judges are even more opposed to my principles than ever.

The matter arose thus. I was judging at the Crystal Palace with the late T. W. Girdlestone, and we came to Jules Finger, T. (I think it was a triplet). He was for giving it full points, but I objected that not only were the blooms flat-topped or "bull-headed," but that (owing to their being a little too old) they had passed to that horrid livid hue which is characteristic of the variety under such circumstances. His reply was, "Oh! that is the nature of the beast," as if that was a reason for making allowance for it.

My original question to the Journal was, "Are we to judge each bloom according to the nature of the beast—that is, according to our knowledge of what should be the best type of the *variety*—or are we to judge each bloom (as I maintain) without any reference at all to what variety it is, in comparison with a beautiful Rose previously chosen as a three-point standard for the class being judged?"

As I have said, no answer was given, and I do not know that the matter was ever argued; but I believe it was after this that the following was added to Method of Judging, par. 5, page 13, of the N.R.S. Schedule and Report:—"A typical bloom of a three-point Rose (which may be carried by one of the judges) should be selected and referred to as necessary in order to keep up a uniform standard throughout the exhibits."

This is a strong pronouncement against "the nature of the beast" method of judging. I should like to see it read "which *shall* be carried." I suspect it is seldom that the standard Rose is referred to. One bears "Oh! that bloom is not big enough for an Ulrich Brunner; that one is not grand enough for Horace Vernet." But I maintain that, provided the bloom being judged is up to the standard three-pointer chosen in shape, colour, and size, it is worth three points, whatever its name may be. And, *vice versa*, that no allowance should be made for natural defects, rarity, or difficulty of growing in the variety to make up for any deficiency in comparison with the standard.

But now I must confess that the "definitions," page 14 of schedule, are against me. For definition 5 runs—"Size shall imply that the bloom is a full size representative specimen of the variety." Surely a little reflection will show that this is absurd. By it can you not only find no fault with, say, Duchesse de Caylus in comparison with Gustave Piganeau in point of size, provided the former is a "full size representative specimen of the variety;" but—to make a *reductio ad absurdum*—the same may be said of William Allen Richardson, or even Perle d'Or. It may be said, perhaps, "these are not exhibition Roses;" but I have never heard that we are limited in the mixed classes to Roses in the N.R.S. exhibition list. I have seen many that never are or have been in that list in the champion seventy-two's at the Palace. Already this year, in judging by myself, I found a very fine Rainbow in one of the stands, and had no hesitation in awarding it full points. I purpose, therefore, at the next N.R.S. general meeting to move that definition 5 shall be amended, so as to read—"Size shall imply that the bloom does not, in respect of size, fall below the standard three-point bloom chosen (as in method 5)."—W. R. RAILLEN.

Rose Beauty.

THE various sections of Roses vie with each other in producing charming effects of graceful growth and beauty of colouring in leaf and flower. Large size and absolutely perfect finish of individual blooms are seldom found on plants allowed to grow with more than ordinary freedom, but this is more than compensated by the profusion of flowers they present. The formality of growth and the paucity of flowers necessary to secure exhibition blooms constitute one form of beauty reaching its climax in the shape of a fully developed and perfect flower. Such Roses are coveted and admired because they show what a Rose bloom is capable of attaining to—size, beauty of form, substance of petal, and depth of colouring or richness of shade and tint. A half-opened Rose bud developed to that condition by the genial influences of moisture and food in the soil and warmth in the atmosphere is a revelation of extraordinary beauty and purity, especially when the freshness of the morning dew is upon it. Its beauty is transient, but impressive. A number of such blooms equal in quality, when arranged together in a tasteful fashion, form a unique combination, especially if various colours are suitably blended.

The Hybrid Perpetuals are noted for their rich and velvety colouring, the darkest blooming Roses being found among them. The Tea-scented class possesses some of the choicest Roses in delicacy of tint and shade of colour. In beauty of form and fragrance they equal, if they do not surpass, all others. Standard Roses having a good head of growth and bearing blooms freely may often be met with, and they usually constitute a beautiful feature in old-fashioned gardens. Dwarfs, if kept low and bushy, and clothed with healthy foliage to the ground, have a special claim to be termed beautiful when studded with bloom buds in various stages. Beds of dwarfs comprising one variety only should be made a special feature in large Rose gardens. All the plants will flower together, and enhance the effect for the time being. Massing varieties of one colour, or approximate colours, in one bed, would give many beautiful shades, and a considerable amount of interest. There are many varieties of red, dark crimson, light crimson, rose, white, pale blush, and yellow Roses adapted for the purpose. Large or small beds of each of these colours would give a superb display.

Beauty can also be found in trained climbers. The branches may present at various seasons some formality of arrangement, that being necessary to secure well ripened growth, but freedom may be allowed the new growth during the blooming period, so as to display to the fullest advantage the blooms, singly or in clusters, according to the variety. Certain classes of Roses are seen under the best possible conditions when encouraged to climb and ramble at will, giving them suitable space on which to do so, such as walls, fences, tree stumps, trelliswork, and pillars. The Polyantha Rose Crimson Rambler likes space and freedom. Evergreen and Ayrshire Roses love to ramble in wild profusion. Some of the Noisettes, including Aimee Vibert, Alister Stella Gray, are wonderfully prolific in flowering under these conditions, while the single Roses would lose half their charm if restricted to formal types of training. Though the flowers are not large, a number of them produces a pretty effect.—H. T.

Feeding Roses.

THE season has now arrived when trees and bushes in the open air need abundance of stimulating food to enable them to develop fine flowers and keep insects at bay. In the case of the H.P., many of the early flowers are over, but successional buds are coming on rapidly, and will supply plenty of flowers for the next few weeks. Many of the Teas, such as the Hon. Edith Gifford, Madame Lambard, and Niphetos, are such continuous bloomers, that good trees are seldom without flowers throughout the season, and it is therefore essential that regular feeding be practised. Up till the present time the weather has been wet, so that mulching even on light soils has not been necessary, but a change seems to have come at last, and in those cases where mulching is not objectionable on account of appearances it should be done at once. Before doing this a little guano or chemical manure should be scattered upon the surface of the soil and hoed in. If a 3 or 4-inch layer of stable or cow manure is then spread evenly over it, and the whole is given a thorough watering, the roots are kept cool and moist for a long time, and the glossy leaves and well coloured flowers show that the treatment is productive of improved results. During the prevalence of hot weather, if liquid manure is given once a week the trees will be kept in vigorous health throughout the summer. In light soils one may get plenty of Roses, but to obtain fine blooms I have always found continuous feeding necessary.—H. D.

Types of Show Roses.

ALTHOUGH the improvement in Roses is a somewhat slow process, those who have marked the changes in this beautiful flower during the past twenty or more years may easily note the better types of to-day. A model of a show Rose is the variety Mrs. W. J. Grant. Large, with handsome lower petals, a long pointed centre which is a considerable time in showing an "eye," clear and rich in colour, with good foliage and constant, there are not half a dozen varieties to equal it. When at their best, *Souvenir d'Elise Vardon*, *Comtesse de Nadaillac*, *Catherine Mermet*, and a few others are in the running for the medal which is given for the best bloom of a show, and these fine types really spoil one in the matter of likes and dislikes. The imbricated form of Rose, like *A. K. Williams*, *Charles Lefebvre*, or *Horace Vernet*, is very fine, and with their rich vivid shades of colour they are most attractive, either on the plant or at an exhibition. *Captain Hayward* is a Rose that has come to the front rapidly on account of its exceedingly fine petal and colour. It is, however, not an easy Rose to show because it opens so quickly.

Mrs. John Laing is a flower of first-rate type. We have found that the least promising buds on a plant develop the better blooms;

handsome type. As a light-coloured show Rose there are few to beat it, but the growth is not so strong as one could desire. *Her Majesty* opens well in some seasons, but the suitable ones seem few and far between. Lumpy-looking Roses like *Caroline Testout* are disappointing for exhibition purposes, and *Kaiserin Augusta Victoria*, although mostly a pretty flower, is not too often a fine handsome blossom.

Of course in the above notes every fine type of Hybrid Perpetual or Hybrid Tea Rose is not mentioned. There are unfortunately a considerable number that are magnificent when seen in good form. This, however, so seldom occurs that I am sure any Rose grower who does not exhibit in classes for a large number of sorts is better off without them. The wisest policy is to grow a goodly number of plants of each of the certain ones.

Among types of Tea Roses the superbly formed *Catherine Mermet*, with its family of sports, *Bridesmaid*, *Muriel Grahame*, and the *Bride*, is quite a leading one. *Comtesse de Nadaillac* is admired not only for the fine development of its petals, but its remarkably pretty tints of colour. A new one, *Golden Gate*, pale lemon with a faint tint of pink, will almost rival the last named when better known. The bloom is long, pointed, and with very large outer petals. *Cleopatra*



FIG. 6.—MR. E. B. LINDSELL'S CHAMPION TROPHY EXHIBIT.

that is to say, not the largest, as big blooms have a tendency to quarter, and often give a dingy tint of colour. Mrs. R. G. Sharman Crawford is a fine pink Rose and rather distinct in type. The bloom is flat, but the outer petals reflex in a manner that make it look deeper than in reality it is. Taking its easy growth into account, as well as its fine blooms, this is an admirable variety.

Dark Roses certainly appeal to me, but they seldom get a season to suit them. This year the showery cool weather seems to bring out their beauty to an unusual degree. *Xavier Olibo*, *Victor Hugo*, *Dr. Sewell*, and *Duke of Wellington*—these are a few types of magnificent dark-coloured show Roses. Time was when *Alfred Colomb* and *Marie Baumann* might be looked for in great form in most show stands, but this deep, high-centred type is not so common now. The former is rather late flowering, which may be one cause of its rarity.

Suzanne Marie Rodocanachi is a Rose of lovely form, and the cerise shade of colour is unique. The pointed-petalled and full-centred form of *La France* is still choice, but it is a Rose that must have fine weather to open it properly; the remark that the strongest grown buds do not always produce the better blooms applies to this variety. That once fine type *Ulrich Brunner* now seems coarse. It is not dainty enough to exhibit among the best types. *Madame Gabriel Luizet* is mostly charming, but requires fine weather; and a comparatively new Rose, *Marquise Litta*, is almost by itself in the manner of its large reflexing petals. *White Lady* is a full, deep, very

is a fine type, but not a good plant to grow. *Madame Cusin* is a remarkable Rose in shape and colour; so too is *Madame de Watteville*, with its Picotee-like edge of colouring in the petals; *Souvenir d'Elise Vardon* stands by itself as fine in form and colour. A newer Rose, *Maman Cochet*, is exquisite. Many of the flowers, however, come faulty in shape. I am not yet impressed with the so-called white form, which may be seen better later on.

Souvenir de S. A. Prince, a pure white form, is lovely sometimes, but no white Tea Rose can compare with *Niphetos* when in good form. Nor is there a yellow to equal *Maréchal Niel*; but these two varieties must come from under the shelter of glass to bring out the fine points. It is early of course to state anything in the matter of new Roses, but as yet no distinct break, at least among show kinds, has been exhibited.—H. S.

Trellis and Pillar Roses.

THIS method of growing a selection of Roses is a most commendable one, and should by all means be promoted as a most interesting way of cultivating a selection of useful varieties. The soil must be well prepared, trenching it 2 feet deep. If wet, and not naturally

drained, several inches of rubble should be placed below the 2 feet of soil, so that water may be prevented stagnating below the roots. Light soils will be all the better for having material of a stronger character mixed in so as to give a more holding nature to the rooting medium, which ought also to be made firm. Heavy retentive soil requires breaking up well, mixing with it additions which will prove ameliorating to the texture and tend to increase its porosity, also admitting air.

If manure is added to the soil it must be of a decomposed nature, strong and cool manure like cow excreta being intermixed with light soil, horse manure to heavy soil. Road scrapings and other gritty materials will much improve adhesive soils, though there is nothing like frost for improving all classes of soil. Light and sandy soil is frequently deficient in mineral matter. This may be increased by the addition of wood ashes, which contain potash. Heavy and clayey ground is better supplied with mineral matter and does not require supplementing, the breaking up and pulverising accomplished by up-to-date methods of cultivation liberating sufficient supplies of this, as well as other plant food. The longer the soil can be under preparation the better when dealing with ground of a more or less stubborn nature.

Stout upright poles about 12 feet high should be fixed firmly in the ground at a distance of 10 to 12 feet apart. They may be connected by chains hanging in a festoon fashion for training the growth upon after it has furnished the pillars. Any rampant growing Rose is suitable to plant and grow in this form, including Gloire de Dijon; the Macartney Roses, Marie Leonidas, small foliage, evergreen, double white blooms; Simplex Single White with shining foliage. Another excellent Rose is Paul's Carmine Pillar, a beautiful single Rose with medium foliage, fiery crimson blooms. It is of recent introduction, and is a good contrast to Turner's Crimson Rambler, which is also a grand pillar Rose. Ruga, belonging to the Ayrshire class, is a splendid variety for pillar culture. The blooms are pale flesh in colour, and very fragrant. Flora is an evergreen Rose of good habit and free blooming, blush white. Aglaia belongs to the climbing Polyantha section. It is most suitable, and produces large bunches of canary yellow flowers, and is known as the Yellow Rambler. Euphrosyne, the Pink Rambler, is also suitable and the large bunches of small pink flowers with a white centre are exceedingly pretty. There is also a White Rambler named Thalia, bearing pure white blooms in bunches. Among the Hybrid China Roses may be found some splendid varieties for this purpose. Blairi No. 2, bright blush pink; Juno, pale rose, and Madame Riviere have flowers of extra size. Fulgens, brilliant crimson scarlet, is a superb variety; Vivid, a rich crimson, makes a fine showy pillar Rose, and Paul Verdier is a vigorous variety, and one of the best. The pruning consists of removing old weak wood.—ROSARIAN.

Exhibiting Cut Roses.

MOST cultivators of Roses are led by degrees to a desire for taking part in competitions at shows. It is a natural wish to try to produce the blooms better than other folks, but the chances are that in the earlier attempts at exhibiting one gets taken from him a great amount of conceit. The flower show is a rare place to restrain one's enthusiasm, and it is also a capital place to learn. For Roses must not only be well grown but they must be properly staged to win prizes; and this requires a certain amount of experience.

To us the most striking fact is that exhibitors must have young blooms if they wish to catch the judge's eye. A lesson was taught the winter in respect of this a few years back. Lingerer somewhat mournfully about my stand of blooms because they had been passed an "old stager" remarked, "Ah, young-fellow, yours were fine flowers yesterday!" And it is very noticeable at recent shows that the Roses which win first prizes are young, fresh flowers. Size appears of secondary importance to colour and form. This is right, too, for a full blown Rose usually has a dingy appearance. To obtain such perfect blooms, then, our advice to beginners is to rely on young specimens. The Rose generally is a flower of a few hours, and to retard its opening is as difficult as hastening it.

In years gone by we took some pains in shading the blooms, and by all kinds of means tried to husband our resources for the eventful day. This we now consider is time wasted. The only protection we would give is tying the shoots apart, so that the flowers shall not rub against any obstacle through being swayed by winds, and may be cutting them the night or afternoon before a show if heavy storms appear imminent.

When practicable, however, leave the flowers on the plants until the last possible moment. No Roses retain their freshness so well as those cut on the morning of a show. Only experience can teach

as to the right stage of development individual blooms may be cut so as to be in their prime at a certain hour. The conditions of the weather, a hot or cool morning, and the make of each variety determine this. For example, Roses with but few petals, like Captain Hayward, open much quicker than a variety like Her Majesty.

Tying each bloom for the purpose of delaying development consequent upon the shaking during travelling is a practice generally adopted during recent years. The plan is to use worsted and to tie just the centre of the bloom. It is undoubtedly helpful, or so many keen exhibitors would not take the trouble. At a show the other day we observed a box of blooms of that charming variety Mrs. John Laing. When the lid came off they were in their travelling dress, and looked small; but in a few seconds, just previous to the cultivator being obliged to leave to make way for the judges, off came the tying material, then a gentle blow into the centre of each flower. The petals fell back in their order, and they were perfect, gaining the coveted first award in a strong class.

In selecting flowers for show, the first thing to look for, after freshness, is good centres. This part of a flower is the first to attract the eye. A quartered Rose is not perfect, although the flat type usually have this trait. The petals should fold in nice order, and when the lower ones are big they may hang loosely without giving the blooms a ragged appearance. The flowers ought to be staged clear of the board on which is placed fresh green moss, than which nothing is better to exhibit their characters.—S.

Current Notes.

THE present is a suitable period to layer shoots from Rose bushes, rather than to wait until later, when the layers must remain until the following spring before they can be removed for permanent planting. Of course it is only shoots from low bushes that can be thus propagated. The ground must be forked over, and a little leaf soil added, or some other equally light material. Old potting soil containing sand is suitable. Should the weather be dry when the layering is about to be carried out, the ground may receive a copious watering the day previous. The soil will then be neither too wet nor too dry. When the wood is about half ripe is the best time to carry out the operation, selecting a convenient shoot or branch.

In forming the cut or tongue make an incision half way through the wood just below a bud, and then make a slanting cut upwards ending at the bud. Depress the branch to the soil, securing it in position with a peg. Carefully heap soil round and over the layers, taking care to keep the tongue open by pushing some soil in it, for should it become closed it is quite possible the cut would heal over again, whereas what is required is that this part should emit roots. Maintain the soil moist until roots have formed. They will do so more quickly at this time than at any other, and the rooted portions may be lifted and planted in autumn. Any which have not rooted well should be left over winter, planting in spring.

Roses may also be established on their own roots by propagating from cuttings; Hybrid Perpetuals, Teas, Chinas, and Bourbons succeed well on this principle. Firm and short-jointed shoots are the best. Shoots from which the flowers have been cut are extremely well adapted for forming cuttings. If inserted now in sandy soil placed over a little gentle bottom heat in a frame or under a hand-light on a shady border, the rooting process will soon be accomplished, but they are best not removed until autumn.

The autumn-flowering varieties of H.P.'s, and others that produce second growth and bloom, ought after the summer blooming is over to be cut back to promising eyes, which may make free and good growth for an autumn display. The foliage, however, on the remaining growth may need cleansing. This can be effectually done by well wetting every part with a solution consisting of 2 ozs. of soft soap to a gallon of water and a pint of tobacco juice, thoroughly well mixed together. With the addition of a handful of sulphur, formed first into a paste and mixed in, this will destroy mildew on the foliage. Stir the surface of the soil after this and mulch with manure, watering copiously with clear water and liquid manure.

Briers and other stocks on which Roses are budded are now sufficiently forward to admit of budding being carried out. In very dry weather a previous watering is of assistance in causing the sap to run freely. Summer pruning climbers may be carried out. Cut out old shoots and branches from such varieties as Gloire de Dijon and Maréchal Niel, nailing or tying-in the new growths as they are produced.—E. D. S.

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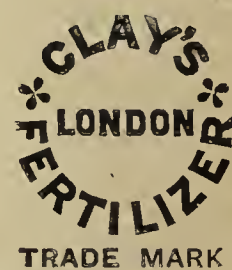


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NOTES

& NOTICES



Recent Weather in London.—The weather in London during the past few days has been decidedly oppressive. Save for a few drops on Sunday evening no rain has fallen, but throughout Monday there was a feeling as of thunder in the air. Tuesday and Wednesday were brilliantly fine and the heat was intense, notwithstanding a slight breeze.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, July 17th, in the Drill Hall, Buckingham Gate (late James Street), Westminster, 1 to 5 P.M. At 3 o'clock a lecture on "Lilies" will be given by Mr. R. Wallace, of Colchester.

Plums and Strawberries.—The fruit crops in the southern part of Lincolnshire have suffered severely from the gale which prevailed in that district at the end of last week. Plums are an exceptionally heavy crop this year, and owing to the weight of the fruit many trees had their branches completely broken off. The Cheshire Strawberry harvest, which is now being gathered, is described as fair considering the absence of sunshine. Hundreds of acres are covered with fruit, which is being picked by an army 800 strong.

Fragrant Roses.—I am acquainted with most of the Roses named at page 4, and cannot remember any as highly scented among Hybrid Perpetuals as Beauty of Waltham or Marie Baumann, Caroline d'Arden or Helen Keller, which were not named. All the Teas are more or less scented with that peculiar mild fragrance, but among those not named by "H. T." is that fine old vigorous Rose, Madame Berard, as also Ethel Brownlow, Catherine Mermet, and its sports, and always including old reliable Gloire de Dijon.—W. J. MURPHY, *Clonmel*.

Open Spaces in the City.—The Committee of the House of Lords, presided over by the Earl of Rosse, on Monday had under consideration the Various Powers Bill of the Corporation of the City of London, the chief opposition to which had reference to the proposal of the measure to throw open to the public the space known as Finsbury Gardens, in the centre of Finsbury Circus. Evidence having been heard on each side as to this clause, the Committee passed the preamble of the Bill, and it will therefore be allowed to proceed.

A Raid on Gateford Hill.—On Wednesday the members of the Retford Speedwell Cycling Club made a sudden descent upon the Rose gardens at Gateford Hill. Although surprised, Mr. H. V. Machin, the owner and originator of the gardens, gave the troop a diplomatic reception, and in this way warded off the worst features which usually accompany a raid. The party on their departure carried with them some of Mr. Machin's choicest Roses, and in this condition were the admiration of a number of Worksop people on their homeward journey.

Mr. Robert Fenn.—The paragraph in your last issue mentioning the sad accident which has befallen our old and highly esteemed friend, Robert Fenn of Sulhampstead, has carried profound pain into the hearts of many who have long known and respected him. No more enthusiastic or earnest raiser of Potatoes ever lived—no one more single or open-hearted. He was in his more prosperous days hospitable, kind, liberal, hearty. In a letter from his daughter to hand, she states that lying on his back a helpless man of 84 years of age "he is very bright, cheerful, and patient, and finds the time less long than we thought he would, so many people call and send him books." That is pleasant to know. But our old friend has grave anxieties, for during his residence at Sulhampstead he has been almost entirely dependent on his own active labour for a livelihood, and even in his great age has been the energetic official of his parish, for none could be found willing to do the work as he did. But when others must do the work, and a long illness must bring heavy medical and other expenses, no wonder if there press at times on the invalid's mind thoughts as to how these may be met. For that reason, and most desirous of giving some relief to his mind just now in the hour of darkness, I am asking you to kindly allow me to appeal to his old friends amongst your many readers for something towards a fitting testimonial to him, and I shall be glad to receive and acknowledge the same on an old friend's behalf.—A. DEAN, 62, *Richmond Road, Kingston-on-Thames*.

Gardening Appointment.—Mr. James Kennan, from Eden Hall Gardens, Langwathby, R.S.O., has been appointed head gardener to R. Heywood Thompson, Esq., Nunwick Hall, Penrith, Cumberland.

Sefton Park Palm House.—In our reference to this noble structure on page 12 of our last issue we omitted to mention that it was erected by the celebrated Edinburgh firm of Mackenzie & Moncur.

Cherries at the Drill Hall.—In our report of the Royal Horticultural Society we stated that Mr. J. Hudson showed Cherries and Strawberries. This was an error, as the exhibit was from Mr. G. Reynolds, Gunnersbury Park. Mr. Hudson only showed one dish of Cherry Bigarreau de Schreken.

Hewell Grange.—In one of the back numbers of the Journal there is a note on the Vines planted at Hewell by Mr. W. K. Pettigrew, the successful gardener. These eyes (according to the note mentioned) were inserted in the month of January, 1896, and planted out towards the end of May, when they were nearly 2 feet in height. These grew rapidly, and reached the top of the trellis by the end of July. The following season (1897) they carried a marvellous crop of fruit, and each season since (including the present) has been an equally creditable success. The present crop is particularly good, bunches very even, not extraordinary in size, but the berries are really fine, and each Vine carries from eighteen to twenty bunches. This is excellent testimony to Mr. Pettigrew's ability.—BRADWEN.

Chilwell Nursery, Lowdham.—For the past five years Messrs. J. R. Pearson & Sons have been establishing a new nursery at Lowdham. They were led to do this from several reasons, but chiefly from the fact that extensive building operations and factories in the immediate neighbourhood of the old nurseries had rendered the air so impure that it was no longer suitable for the growth of trees. Twelve months ago the firm removed the seed and bulb department to Lowdham, and the head office has been established there since last September. The business which has been carried on at Chilwell by the firm for four generations has now been entirely transferred. The present nursery consists of 100 acres of land, the larger part of which is already stocked with fruit trees and Roses, and the firm has erected sufficient glass for the culture of Vines in pots, orchard house trees, Figs, and the growth of choice strains of seed. The offices are less than three minutes, and the nurseries are within ten minutes' walk from the station. It has been decided to devote the nursery entirely to the culture of fruit trees and Roses, and to make the establishment as perfect and complete in this line as it is possible to do. Messrs. Pearson are, therefore, discontinuing the cultivation of the Zonal Pelargonium, with which the name of the firm has been so long connected, together with all greenhouse plants and cut flowers.

Royal Horticultural Society.—A meeting of the Fruit and Vegetable Committee was held at Chiswick on July 11th. Present: Messrs. Balderson (chairman); W. Marshall, G. Wythes, J. Bates, S. Mortimer, H. Markham, A. F. Barron, H. Esling, G. Kelf, Gleeson, E. Beckett, and A. Dean. Attention was given to the later Peas, of which there were some first-rate examples. Awards of merit to Captain Cuttle and Duke of York, previously made, were readily confirmed. A F.C.C. was given to Alderman, a superb 6 feet Pea, of which there was an identical stock under the name of Royal Standard, and awards of merit were made to Sutton's Peerless, 3 feet, a fine cropper, and Sharpe's Standard, 4 feet, also a capital variety; also as late Peas to Fascination, a remarkably free cropping variety with medium sized pods of good colour, and Sutton's Late Queen, a now well tried variety, of which there was an identical stock grown under the name of Victoria. Two Lettuces, Harrison's Emerald, a fine green, firm, smooth Cabbage form, and Harrison's King, a large, finely curled Cabbage variety, were each awarded three marks. A considerable collection of early and late Potatoes is being grown. Of these several of the earlier ones were lifted, and eight of them showed crops so good, some having such fine tubers, that they were sent to be cooked and tasted. Ultimately a F.C.C. was given to Sharpe's Very Early, a fine cropping kidney that gave the best quality when cooked, and was greatly liked; whilst awards of merit were given to those well-known varieties of Messrs. Sutton & Sons, Ringleader and Ninetyfold. The Major, which had previously had an award, was found a very fine cropper, as also were May Queen, Earliest of All, Pioneer, Grimston Ashleaf, and one or two others. All these will be tried again later.

Midland Carnation and Picotee Society.—A committee meeting of the above society was held on Thursday last to fix the date of the next exhibition, and on account of the lateness of the season the exhibition was postponed till Thursday and Friday, August the 9th and 10th.

Barnsley Paxton Society.—At a recent meeting of this society Mr. C. H. Parker read an exhaustive essay on "The Clematis as a Flowering Climber," which was excellently received. The several sections were briefly adverted to with straightforward cultural suggestions. A vote of thanks terminated the proceedings.

National Chrysanthemum Society's Annual Picnic will, by the kind permission of Alfred C. de Rothschild, Esq., take the form of a visit to Halton, Bucks. The date fixed for the picnic is Wednesday, July 25th, and the cost, inclusive of railway fare, conveyance to and from Halton, dinner and tea, will be 7s. Ladies are specially invited. The company will be conveyed to Wendover station by special train on the Metropolitan Railway, from Baker Street. The train will call at West Hampstead station at 10.33 for any travelling by the North London Railway to West End Lane, which adjoins West Hampstead station; and at Rickmansworth at 10.59, for friends from the London and North-Western Railway; and also call at these stations on the return journey. Conveyances will meet the train at Wendover. There will be enough to take about 100 persons up to the lodge, and they will return for the remainder. Dinner and tea will be provided on the grounds at Halton. Members and friends not using railway tickets will be charged 4s. for conveyance to and from Wendover, dinner and tea. All wishing to go will please communicate at once with Mr. Richard Dean, the Secretary, Ranelagh Road, Ealing.

Liverpool National Amateur Gardeners.—Cordiality of the best style prevailed last Thursday, when two large tables had to be requisitioned on which to display the exhibits. Mrs. Morris had charming Roses, winning also with four bunches of outdoor flowers. Trusses of handsome Pelargoniums came from Mr. Hoskyn. The Carnations and Hydrangea from Mr. Turner were magnificent. The spray of W. A. Richardson Roses staged by Miss Hunter was arranged with the lady's usual exquisite taste. Mr. Dodd had a beautifully flowered Begonia, the President, Mr. A. W. Ardran, winning the large Rose class with a splendid exhibit. Mr. Cangle's Sweet Peas were fine in form and colour, and not only gained the first prize but also half the special prize awarded, the other going to Mr. Robins for a collection of cut flowers. The hand-baskets from Mrs. Stevenson were vastly improved. This lady also showed for points, from her roof garden, fine Cucumbers, some mixed Currants, and Strawberries, which caused a sensation. The lecturer was Mr. H. Cliffe of Waterloo, whose "Further Talk about Roses" was practical, up to date, and highly appreciated. So enthusiastic have the members become that a very excellent day's outing to Eaton Hall, Chester, and Dickson's nurseries has been arranged by Mr. MacGregor, the secretary, for July 19th. —R. P. R.

Reading Gardeners' Association.—The July meeting of the Reading and District Gardeners' Society was held in Messrs. Sutton and Sons' trial grounds on Monday evening, when nearly 100 members assembled to hear a paper on the Sweet Pea by Mr. G. Stanton of Park Place Gardens, and at the same time to inspect the 244 varieties of this popular annual Messrs. Sutton are growing this year. Mr. Stanton, in introducing the subject, remarked that we are now keeping its bi-centenary, and therefore the year 1900 must be a memorable one in the history of this the most beautiful of all annuals. We hear little or nothing about the Sweet Pea from 1700 until 1731, when Philip Miller mentions it in his "Gardeners' Dictionary." In Mawe's "Gardener," published in 1800, five varieties are mentioned; this shows the position of the Sweet Pea at its centenary. A striped variety was mentioned by Page in 1817, bringing the number up to six, and as only six were known in 1842, no addition was made for twenty-five years. In 1860 nine varieties were recorded, and about 1865 the Invincibles came out. During the year 1878 or 1879 the great improvement in Sweet Peas began, whilst in 1890 this flower was taken up in America, and soon became very popular. The lecturer briefly touched upon the culture, and then passed on to note some of the peculiarities about Sweet Peas. On the proposition of Mr. Woolford, seconded by Mr. Neve, a hearty vote of thanks was accorded to Mr. Stanton for his paper, and to Messrs. Sutton & Sons for kindly allowing them to hold their meeting in their grounds, and for their hospitality.

Shirley Gardeners' Association.—Mr. H. Curtis has resigned his position as head gardener to W. F. G. Spranger, Esq., J.P., Spring Hill, Southampton, where he has been for the past eight years; and has been appointed by the Corporation of Widnes, in Lancashire, as head gardener of the Public Parks and Cemetery, and he enters on his duties on July 23rd. In consequence of this he has also had to resign the position as secretary of the Shirley Gardeners' Association.

Scottish Arboricultural Society.—We learn that the Royal Scottish Arboricultural Society has issued a syllabus of subjects for competitive essays that may be submitted any time before June, 1901. These essays, reports, and articles bear relation to various branches of arboriculture and forestry, and a prize will be awarded to the best contribution in each class. A general meeting of this society is to be held on August 7th, next, at 5, St. Andrew Square, Edinburgh, when, among the business to be transacted, is a consideration of the damage done to woods and crops by sparks from railway engines. The council of the society invites members and others to prepare and send to the secretary particulars of all fires caused by railway engines which have occurred in recent years, but for which no compensation has been received.

Birmingham Amateur Gardeners' Association.—The members of the Birmingham and District Amateur Gardeners' Association held their eighth annual excursion on June 30th, when, through the kind permission of Lord Leigh, the gardens and grounds of Stoneleigh Abbey, Kenilworth, were visited. Under the guidance of the head gardener, Mr. H. T. Martin, the party was conducted through the numerous vineries, Peach houses, greenhouses, and kitchen gardens. The Vines were in splendid bearing, some grand bunches of Black Hamburghs and Foster's Seedlings being noticed. In the greenhouses Gloxinias and Fuchsias were in magnificent bloom. Amongst other things, a grand variety of Crotons and Dracenas were seen, and from their appearance there is no doubt that these are plants which Mr. Martin does particularly well. In the outside gardens a special feature is the Box edging, which is seen not only in the gardens themselves, but on the terrace. A large amount of space is devoted to wall fruits and Gooseberries on the cordon system. There were also some splendid beds of herbaceous Phloxes and Michaelmas Daisies. The Rose garden is situated on the bank of the Avon, and there were some excellent specimens of both standards and bushes. The members were also conducted through the interior of the Abbey.

June Weather at Belvoir Castle.—The wind was in a westerly direction nineteen days. The total rainfall was 2.10 inches; this fell on sixteen days, and is 0.02 inch below the average for the month. The greatest daily fall was 0.78 inch on the 15th. Barometer (corrected and reduced): Highest reading 30.322 inches on the 1st at 9 A.M.; lowest 29.479 on the 25th at 9 A.M. Thermometers: Highest in the shade 82° on the 11th, lowest 43° on the 1st. Mean of daily maxima 66.30°, mean of daily minima 47.27°. Mean temperature of the month 56.78°; lowest on the grass 41° on the 6th, highest in the sun 138° on the 11th. Mean temperature of the earth at 3 feet 55.63°. Total sunshine 167 hours 10 minutes, which is 14 hours 10 minutes below the average for the month. There were no sunless days.—W. H. DIVERS.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
July.		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
Sunday.. 1	W.S.W.	deg. 64.4	deg. 55.3	deg. 65.0	deg. 56.8	ins. 0.09	deg. 62.2	deg. 59.9	deg. 56.1	deg. 51.7
Monday.. 2	S.S.E.	58.9	55.7	64.1	54.8	0.16	61.9	59.6	56.3	54.8
Tuesday 3	W.N.W.	61.5	54.7	67.2	53.4	0.22	61.5	59.6	56.4	51.4
Wed'sday 4	N.N.E.	60.7	55.0	69.9	49.5	—	61.9	59.8	56.5	41.8
Thursday 5	S.S.W.	60.4	58.0	75.0	48.9	—	63.5	60.2	56.6	48.5
Friday .. 6	N.N.W.	60.5	52.9	66.5	56.8	0.02	64.1	60.5	56.8	52.9
Saturday 7	N.N.E.	58.8	49.8	63.5	49.5	—	62.7	60.8	56.9	41.0
MEANS ..		60.7	54.5	67.3	52.8	Total 0.49	62.5	60.0	56.5	48.9

The weather during the first part of the week was very unsettled, with a thunderstorm on the 3rd inst. The wind has been very cold and strong all week.



Topiary Work.

THINGS that, as "Punch" would say, one would rather not have seen.

One of the first exhibits to attract attention on entering the Temple Gardens recently, from the Thames Embankment entrance, was a collection of grotesque evergreen caricatures, supposed to represent animals and goblins, the like of which were to be found in a few English gardens, a century or two ago, as cheap substitutes for properly executed statuary. Happily these ludicrous monstrosities have almost disappeared, or the few that still remain are banished to the out of the way curiosity garden, where they are valued only as relics of an inartistic age, or as a source of amusement to the juvenile branches of the family and their nursemaids. Such an exhibition at the present time must have created some mirth as well as some astonishment and alarm amongst the numerous visitors to the Temple Gardens. Surely history is not about to repeat itself with reference to the reintroduction of these fantastical figures into our English gardens, and yet what can such an exhibition mean? May a kind Providence intervene to save us from such an infliction.—T. CHALLIS.

The Royal Horticultural Society's Examination.

AFTER a careful perusal of the list of candidates who passed in the recent R.H.S. examination and of the places whence they emanate, I have come to the conclusion that the annual exam. has become nothing better than a contest between certain collegiate or instructional centres, and that special efforts are there made by imparting purely theoretical instruction, to pass candidates for the honour and glory of each centre. That being so, one is tempted to ask, "Is the game worth the candle? Is any good resulting to gardening because of this examination?" It is evident that the examination needs division into horticultural theory and horticultural practice; no student should obtain a first-class pass until he or she had passed well in both subjects. The practice exam. should be as severely practical as the theory exam. should be severely theoretical. We want to know what are the practical values of these exams., and no information is given, for unless they have very practical aims and tests they are worthless. Why are not the questions and a few of the chief students' answers published?—CENSOR.

Apples and Other Fruits.

It is interesting to read the reports—from time to time—of your valued correspondents on Apples, especially where they do well and where they fail to give satisfaction. It would add much to the value of the information communicated if we received further details of the conditions under which the fruits are cultivated; longitude and latitude only given do not meet all the desires of readers; altitude we know affects all plants materially, and we know that some fruits, shrubs, and hardy flowering plants do much better a hundred miles, and more, north from Edinburgh than they do in Midlothian; and some fruits—culinary Apples especially—do better in the midlands of Scotland, and in the Lothians especially, than in some of the midland counties of England. The soil, subsoil, and nature of the locality—wet, dry, or exposed to easterly and northerly winds, all affect the quality and productiveness of Apples very materially.

I may also say the same of Plums, Apricots, Pears, and Cherries. The latter, Morello variety, are seldom scarce in this place. Of late years we have almost let pruning of these alone, by lifting and adding lime to the soil. The growth is now very short (in fact, natural spurs), and require little aid from the knife, and the trees, especially on an easterly aspect, are always well cropped. Lime rubbish placed under the roots to prevent downward growth does much to keep all fruit trees in health, and in a fruit-bearing condition. To place this material (or a substitute) under the roots when planting is done does much to save trouble in future, and materially adds to the longevity of the trees, and generally is a preventive of canker. Feeding done from the surface to induce a tendency of upward root growth is very conducive to excellence of fruit, and is productive of a multiplicity of fruit buds. We prefer a "selection" of fruits instead of a "large collection." Apples which give an abundant culinary supply every season without failure are Keswick Codlin, Stirling Castle, Golden Spire, Lord Grosvenor, Northern Greening, Sandringham, Seaton House, and Yorkshire Greening.—M. TEMPLE.

Those Wretched Adages.

I HAVE kept notes of the weather and certain natural phenomena for a great many years, and quite agree with those who say that the average Oak is always before the average Ash in coming into leaf. I find no note to the contrary in 1879, but feel pretty sure I should have noted it if the Ash had been first. The Mountain Ash is early, and individual seedlings of Ashes may be early, and of Oaks late. But the jingle that really makes me angry is—

"A dripping June
Puts all things in tune."

Perhaps this belongs to the north; but no, they generally have enough rain there. Well, I cannot understand it. There is no time of the year when we here, in the driest part of England, are more anxious to escape rain than from mid-June to mid-July. As I have sat lately indoors watching the rain destroy three things near to my heart and my pocket—Roses, hay, and partridges—I think I should have liked to argue the matter out personally with the author of that detestable rhyme; but I strongly suspect he has been long ago slain by the myriads of people to whom rain in June is everything that is undesirable. In tune, indeed! Anyone who does not know that sunshine should be the keynote of midsummer, and that gloomy skies and constantly dripping rain are utterly out of harmony with the season, seems to me to have no knowledge of the meaning of plain English words.—W. R. RAILLEM.

Proxy Voting.

I HAVE been looking to see what some of the old masters have said upon this subject, and although it has now virtually been decided that proxy voting shall not be allowed in the debates of the R.H.S., many might still like to know how this question has been dealt with in the past. The human memory is short, and the generations of man quickly succeed each other, and what I here recount happened twenty-six years ago.

Everybody may not be aware that lady Fellows of the society were once privileged to vote by proxy—a privilege denied to the mere men Fellows. Nor are all aware that in the clamour for sexual equality—men proxies—that the proxies of their more charming superiors were swept away, and this because of an allegation that a council with decided horticultural proclivities was turned out by the proxy votes of their masters—the ladies—and a non-horticultural council put in.

Then came the demand of the men, and at a special general meeting of January 8th, 1874, a resolution was passed by a show of hands according them this privilege. Note the sequel. Though the council was non-horticultural the president of the society declined to act on the verdict, on the plea that it was not legal, but he no doubt foresaw other consequences, at any rate he opposed the proposition. He said there was "no sort of guarantee that the proxies would be used for the purpose intended. On a former occasion he said the proxies of the ladies had been really used without their knowing the effect of their action for throwing the society into chancery." It was his duty, however, to read the empowering bye-law. To this Dr. Denny, a real horticulturist, proposed an amendment, the effect of which was to abolish proxies altogether. He said voting by proxy, while suitable for railway and public companies where large sums of money were at stake, would be worse than useless for the R.H.S. It would destroy the independence of Fellows, and place entire power in the hands of the council, who could canvas for proxies to any extent. So much for Dr. Denny.

Now hear Mr. Shirley Hibberd, who in seconding said, "If they did not carry the amendment they would be violating the fundamental principle of the Charter. They had a right to vote by ballot, the object of which was to *destroy any personal element*. There was by the ballot no record of the way in which any Fellow had voted; but there was of voting by proxy, as it put the *personal element* in the first place."

Dr. Denny's amendment was carried by 48 against 18 votes, and when put as a substantive motion, finally carried by 49 votes.

Now hear Dr. Hogg. Not only by the result of that decision is the power of Fellows generally to vote by proxy refused, but the ladies' proxies are withdrawn. Proxy voting is therefore abolished in the R.H.S., which is now in this respect in the same position as all other chartered societies and learned bodies in which no such power has ever existed. No Fellow should have the power of voting on any motion without hearing the arguments urged on both sides.

The House of Lords resigned the privilege of proxy voting because it was known to operate wrongfully; and is there any sound reason why the chairman of the R.H.S. council should be able to say any more than the Prime Minister, "Let the opposition argue, I have the majority in my pocket?"

It is right that the present Fellows should have these records of the worthy and loyal horticulturists of the past even after the important question that came before the meeting a week ago has been settled.—F. R.

The History of the Rose.

(Continued from page 478.)

It is singular that Pliny has not mentioned the twice-blowing Rose of Pæstum, so often referred to by Roman poets. Is the Prænentine or the Campanian Rose to be regarded as the Pæstan Rose, or a species of it? If so, is it not probable that Pliny would have noticed them more particularly? Of the Pæstan Rose we unfortunately possess no detailed accounts. They appear to have been extremely beautiful and fragrant, and to have grown very abundantly at the place from which they took their name. Virgil, Martial, Ovid, and Propertius constantly alluded to the Pæstan Roses, speaking at one time of their abundance, at another of their fragrance and colour.

But there is a Rose which still blooms amid the ruins of Pæstum, and it is thus noticed by Mr. Swinburne in his "Travels in the Two Sicilies":—"The Pæstan Rose, from its peculiar fragrance and the singularity of its blowing twice a year, is often mentioned with predilection by the classic poets. The Wild Rose which now shoots up among the ruins is of the small single Damask kind, with a very high perfume. As a farmer assured me on the spot, it flowers both in spring and autumn." The Pæstan Rose, according to most authorities, appears to have been of a deep red colour; yet Pomponius Fortunatus, in his notes upon Columella, says it was almost white; he further observes that it flowered in May and September.

Of the ancient rosaria, or places set apart for the cultivation of Rose trees, no account has reached us as to the manner in which they were laid out. Pliny and Columella mention March and April to be the months during which the rosaria should be dug up, and otherwise prepared for the reception of plants; but Palladius recommends an earlier commencement. He says, "We are to plant beds of Roses this month (February), which are to be set in very narrow furrows or in trenches, either suckers or seeds. The seeds of Roses are contained in integuments, which they produce, which become ripe after the vintage; and their maturity may be known by their dark brown colour, and from their softness. If there are also old beds of Roses they are stirred at this season with weeding instruments or pickaxes, and all the dry wood is cut off. Now, also, those places that are not well supplied are to be recruited by means of layers. If you wish to have Roses more early than usual, you are to dig round them at the distance of two palms, and to water them twice a day with warm water. . . . Although beds of Roses are to be planted in February, we may, however, make plantations of Roses in November; which, if being in want of plants you wish to be well supplied with, you ought to cut the young shoots with their joints, and to set them in the same manner as a Vine is propagated, and to cherish them with compost and watering. When they are a year old you are to transplant them a foot distance from each other, and thus to fill the ground which you destine to this sort of plantation." Neither Columella nor Palladius mentions by their names the kinds of Roses which were cultivated in these plantations. This omission may, perhaps, be attributed to the kinds of Roses used for wreaths, chaplets, &c., being generally known, since we learn that none but those so employed were planted in the rosaria. The most celebrated of these Rose plantations were at Pæstum. It may here be mentioned that the custom of rearing large plantations of Rose trees still exists in the East and in Russia, as appears from the following extract from Van Halen's account of his journey in that country:—"On the following morning we left our place of bivouac, in the vicinity of Kuba, with the rising sun, and proceeded through picturesque fields covered with Rose trees. The exquisite fragrance emitted by them, and which the morning dew rendered more fresh and grateful; the varied warbling of a multitude of birds, who had their nests in these delightful bowers; and the sight of several cascades, whose playful waters leaped from their steep summits, produced on every sense an indescribable feeling of delight. One of the nobles belonging to the suite of Ashan Khan made me a present of a small flagon of oil extracted from these Roses, and which, when some months after I compared with the best otto of Roses of Turkey, surpassed it in fragrance and delicacy. Beyond these woods of Roses spreads an extensive forest."

Roses, according to Theophrastus and Pliny, were raised, in some cases, from seeds; but they say that the growth of the plant when so propagated was slow owing to the seed being situated within the bark under the flower, and having a woolly covering. Shoots or cuttings were also planted, and this mode of propagating the plant was preferred to the above because their growth was more rapid.

The cuttings, according to Pliny, were four fingers or more in length, and were planted soon after the setting of the Pleiades, perhaps about April, and were afterwards transplanted during the following

spring. The young plants were placed 1 foot distant one from another, and were frequently dug round. They required a light soil, not rich nor clayey, nor one in which there were springs. Their favourite soil was ground covered with the rubbish of old buildings.

The following account of the cultivation of Rose trees is given by Didymus in the "Geoponics."

If you wish, says the above writer, to have a constant succession of Roses, plant and manure them every month. But Roses are planted in various ways. Some transplant them with the root entire; others take them up with the root, and cut them down to the size of four fingers in length, and plant all that is cut off the roots, and what grows from them, at the distance of 1½ foot from each other. Some weave wreaths of Rose plants, and plant them for the sake of their fragrance. But we ought to recollect that Roses will have more fragrance when they are grown in dry places, in the same manner as Lilies have. Roses come early both in baskets and in pots, and require the same attention as Gourds and Cucumbers. If you wish those Rose trees already planted to bear flowers early, dig a trench two palms in breadth from the plant, and pour into it warm water twice a day. Democritus says that if a Rose is (thus?) watered twice every day, in the middle of summer, it will bear flowers in the month of January. Florentinus says a Rose may be grafted, or in-eyed, into the bark of an Apple tree, and that Roses will appear at the same time the Apples do. If from a few plants you wish to make more, take cuttings of them, and, making them four fingers or a little more in length, set them into the ground. When they are a year old transplant them at a distance of a foot from one another, and tend them by careful digging, and removing all the rubbish from about them.

It was customary among the ancients to cut back and burn down Rose trees, by which means the trees were increased in size, and produced a larger number of flowers. Theophrastus says that the flower by these means was rendered more beautiful.

The Rose, like the Vine, appears to have grown most rapidly when transplanted; and Theophrastus informs us that, when this was done frequently, a more beautiful flower was produced. The Rose-tree cuttings required to be put in the ground deeper than young fruit trees, and not so deep as Vines; the latter being sunk in the earth to the depth of 2 feet. Didymus observes that the fragrance of the Rose is increased and improved by being grown in the vicinity of Garlic.*

The rarity of early Roses made them valuable; and like all vegetable productions obtained out of their season, they were eagerly sought after, and bore a high price.

"Rara juvant: primis sic major gratia pomis,
Hibernæ pretium sic meruere Rosæ."

Martial, lib. 4, epig. 29.

"The rare delights: we find first Apples nice,
And winter Roses bear a tenfold price."

Elphinston's trans.

The employment of warm water for forcing Roses has already been mentioned. Palladius and Seneca both allude to this custom, and Pliny states that the time when it should be put into practice is when the calyx of the Rose begins to sprout. Columella and Pliny state that it was usual to cover plants with the "lapis specularis" (talc), when it was an object to make them produce their fruits early; and this plan appears from Martial to have been pursued with respect to flowers also:—

"Conditæ sic puræ numerantur lilia vitro,
Sic prohibet teneras gemmas latere rosas."

Lib. 4, epig. 22.

"So through the crystal are the Lilies told;
So does the gem the blushing Rose unfold."

Elphinston's trans.

Before quitting this portion of the subject, we must allude to a singular practice mentioned by Didymus in the passage from the "Geoponics" above quoted—namely, the weaving of wreaths, and planting them; because Casaubon, in his "Comments upon Antheæus," where a passage is quoted from Nicander's "Georgics," in which it is mentioned that frequently a complete crown made of Ivy is planted, says, "*Ridiculum est, . . . interdum coronam ipsam hederaceum cum suis racemis esse plantandam.*" It is probable that Casaubon had not met with the passage in the "Geoponics" which proves the possibility of forming wreaths thus; and, moreover, shows that it was by no means an uncommon practice to "plant crowns."

* ——— "The Pæstan Rose unfolds
Her bud more lovely near the fetid Leek."

Philips, Cider, v. 254.

† By "gemma" is to be understood the talc with which the Roses were covered in gardens.



MR. H. V. MACHIN.
MR. C. J. GRAHAM.

MR. GEORGE GORDON. THE REV. F. PAGE ROBERTS.

FIG. 7.—JUDGES AT THE CRYSTAL PALACE ROSE SHOW.

MR. EDWARD MAWLEY.

DEAN HOLE.



The Summer Thorn Pear.—The Summer Thorn Pear is worthy of extension, being considerably earlier than the Jargonelle in ripening, of somewhat similar shape, but smaller, flesh yellowish white, juicy, sugary, with a slightly mnsky flavour, ripe early in September, and like the Jargonelle and other very early Pears is a short keeper. As a decorative tree for the lawn or other portion of the pleasure grounds the pendulous habit of this Pear, especially when in bloom, specially commends itself.—W. G.

Varying Colours on Laburnums.—The different coloured racemes of flowers is due to graft influence, and chiefly prevails on Laburnum Adami. This is a graft hybrid said to have been raised by Jean Louis Adam in 1826 by shield-grafting *Cytisus purpureus* on Laburnum vulgare. A most extraordinary thing in connection with it is the complete reversion of some parts of the same tree to one or other of the parents. The mites referred to by Mr. J. Hiam (page 535 last vol.) are probably *Tetranychus Laburni*.—A.

In Nature's Garden.—The wild flowers of July are certainly not surpassed in splendour by those of any other month. Among the Pine hills of Surrey they look grand just now. The Heather—two kinds, cross-leaved and fine-leaved—is out, though not yet in its prime, and many roadside banks are simply yellow with Stonecrop. Then there is the intensely blue Devil's Bit Scabions, and the far more sombre Germander or Wild Sage, and the little Heath Bed-straw, and still smaller Squinancy or Quinsey Wort, which the old herbalists swore by as a sovereign remedy. Down by some of the Hammer Ponds, which are such charming features of the Hindhead district, I found the other day a fine array of two species of the Marsh Orchis. Orchises, if supplied plentifully with water, will last a week in your room. I had a beautiful Bee Orchis in my room the other day, which had been picked quite a week before, and was still unwithered.

Ants in the Orchard.—"I notice in several late numbers of the 'Gazette' questions asking how to destroy ants. I would like to ask why people desire to destroy these insects. I have had over forty years' experience in gardening and fruit growing, and find ants my best friend, and would be sorry to lose them. I never lose anything sound, either fruit or vegetable, by them; but find that they clean off many small destructive insects from the trees. I notice one writer advising lime; that he scattered lime under infected Peach trees to keep away the ants, and the trees flourished after it. But I venture to tell the writer that the ants did more good to the trees than the lime, though lime does good if put on the trees." Of course, everyone is at liberty to hold his own opinion about questions of this kind. It must be remembered, however, that the mere presence of ants in large numbers upon a tree is a sign that there is something wrong with it, and if the attraction be removed the ants will not return.—T. GRUNSELL (in "The Agricultural Gazette of New South Wales").

The Durian.—American visitors to the Philippines are in danger of acquiring the Durian habit. The Durian fruit is described as smelling of rotten Onions, but when the taste is acquired it is preferred to all other food. According to the "New York Sun" the natives give it honourable titles, exalt it, and make verses on it. The Durian grows on lofty trees, is round, and about the size of a Coconut. It is thickly covered with spines. The interior consists of fine cells, each filled with an oval mass of cream-coloured pulp, embedded in which are two or three seeds of the size of Chestnuts. This pulp is of the consistency of a stiff custard with the flavour of almonds intermingled with other flavours that suggest cream cheese, onion sauce, and brown sherry. It is neither acid nor sweet nor juicy, yet the absence of these qualities is not regretted, and the more one eats of it the less inclined he feels to stop. Wallace says of it that "to eat Durians is a new sensation, worth a voyage to the East to experience." The fruit cannot be preserved for transportation except in salt. Then it acquires an odour so disgusting that no European can tolerate it. It is like the Persimmon, in that it must be dead ripe to be enjoyed. Therefore only in those that fall from the trees at the moment of perfect maturity is found the fascinating quality that makes the Durian the king of fruits.

Fruit in South Africa.—A man who has a very large estate with millions of fruit trees in South Africa finds that it takes two years for well trained English gardeners to get used to the soil and atmosphere before they will succeed out there. Trees and grain need very different planting in South Africa, as the English modes do not answer there. The railway freight makes produce grown far from the coast valueless for England. This estate owner thinks of having his fruit tinned and dried, and for this he might employ ladies, who might develop the industry very much. Grapes, Oranges, Cherries, Pears, Apples, Blackberries, Peaches, Strawberries, Apricots, and even English Gooseberries (which require frost), grow in that part of the Orange Free State bordering on Basutoland, yet tons of fruit must rot yearly for lack of means to get it to the coast.

Dwarf Sweet Peas.—Whatever the proposed conference will do in regard to the classification of the Sweet Pea, I hope it will not give too much encouragement to the further dwarfing of the habit of this popular garden flower. The culinary dwarf Pea is another matter, and the early section, growing from 1 to 2 feet, is a valuable one. But, then, we grow culinary Peas for utility purposes, and so long as a variety is prolific and of good quality, appearance is not an important consideration. Speaking generally, the dwarf section of Sweet Peas is not a success, and there are a few people who treat it as anything but a novelty, and not a very striking one either. Dwarf Sweet Peas bear no comparison with the tall varieties, and one of the most pleasing features about the plant is its branching habit, and the free way in which its flowers are produced. Nothing of this is seen in the dwarf division.—H.

Peronospora in Greece.—During the past spring we had, through the Foreign Office, some discouraging reports as to the commercial prospects of the Currant and Grape crops at the ensuing gathering season; from Patras we have now to hand disquieting intelligence respecting the ravages of the *Peronospora* throughout the more extended district devoted to the cultivation of the above-noted crops. The pest appears to have been spreading and growing in activity since the early part of May, and when the news was forwarded the damage was estimated at 30 to 50 per cent. for the Currants, and 50 to 60 per cent. to the vintage. The weather continued to be favourable to the development of the pest, which is reported to be rapidly spreading. As both crops are liable to sustain damage from the malady until they obtain maturity towards the middle of next month, fears are naturally entertained, says a contemporary, that a very large proportion of both crops will be lost, unless some favourable change in the weather suddenly arrest the progress of the disease. As to remedial measures, sulphate of copper and lime dissolved in water to the extent of 1 to 2 per cent., and then sprinkled over the plant, is considered a remedy or preventive against the *Peronospora*; but although this method has been largely adopted by most cultivators, the result has been only partially successful. It may be noted that, as the welfare of most classes of the population in the Patras district is bound up in the success of the two crops mentioned, it will readily be understood what a calamity may ensue should the disease not be checked. It is reported from Nauplia that the crop of Sultanias has also suffered severely.

Cambridge Botanic Gardens.—Among the more important and interesting of the plants which have been received are *Begonia Hemsleyana* ("Botanical Magazine," tab. 7685), remarkable as an Old World species on account of its palmately divided leaves; *Begonia venosa* ("Botanical Magazine," tab. 7657), characterised by the large membranous stipules which hide the stem; *Cinnamomum zeylanicum*, the Cinnamon tree; *Crinum natans*, extraordinary among other species of this genus in the adaptation of its leaves for growth in water; *Cycas siamensis*, a rare and distinct species (purchased); *Encephalartos brachyphyllus*, a good addition to the collection of Cycads; *Fugosia hakeaefolia*, a rare ornamental Malvad; *Incarvillea variabilis* ("Botanical Magazine," tab. 7651), an interesting addition to the genus; *Dianthus Knappi*, interesting in the genus on account of its yellow flowers; the true *Delphinium Staphisagria* in the place of a long cultivated spurious plant, interesting from the use of the seeds in certain parasiticide ointments; *Lewisia Tweedyi* ("Botanical Magazine," tab. 7633), a choice perennial for rock culture; *Lycopodium dichotomum*, a tropical species; *Meconopsis paniculata*, probably a new species; *Nicotiana sylvestris* ("Botanical Magazine," tab. 7652) a new ornamental species of the Tobacco genus; *Salvinia auriculata*, an interesting addition to the one species hitherto cultivated; *Zizania latifolia*, a gigantic aquatic Grass allied to wild Rice; and *Kniphofia Tysoni*, a recently introduced species from East Griqualand.

Rose Shows.

National Rose Society.—Crystal Palace, July 7th.

THE great annual exhibition of Roses has come and gone once more, and again has brought in its wake exultations and disappointments. For weeks, we might, perhaps, safely say months, rosarians throughout the country have been speculating as to what the 7th of July would bring forth. The views expressed by various growers have been curiously divergent, and have proved that even the most skilled in Rose culture are not always correct when they make prophecies about shows. Some few said it would be a thoroughly bad display, but the vast majority favoured the idea that it would be both large and good. Neither party was precisely correct, but generally speaking it may be said that it was not up to the average standard of excellence. With respect of the competitors we cannot speak definitely, but there seemed to be more blank space on the tables than is customarily the case. There were, however, entries in every class in the schedule, and in some few instances there were upwards of a dozen competitors.

The nurserymen's section, embodying, as it does, several large classes, made a brilliant display, and a little observation sufficed to show the presence of many excellent flowers. It was noticeable, however, that scores of otherwise superb blooms were bruised and bleached by the weather; we thought Messrs. Alex. Dickson and Sons' silver medal Suzanne Marie Rodocanachi scarcely first class; it was certainly a noble flower in size, but the weather blemishes would in some cases have been sufficient to preclude its reaching the premier place of honour. The same firm's new Hybrid Tea Mildred Grant, which also received a silver medal, was perfect, and it will become one of the first rank Roses if others can grow it as successfully as the raisers. Mr. George Prince's Bridesmaid was one of the finest examples of this variety that we have seen, and it was of such remarkable substance that it looked as though it would remain good for a week. "Garden" or decorative Roses were shown magnificently by one or two growers, and received more attention than any other individual stands, especially from ladies, who evidently can appreciate their artistic beauty.

In the amateurs' division of this great Rose feast the extremes of quality were again discernible. One or two regular attenders were conspicuous by their absence—a proof that the season has not been favourable to their stock. The redoubtable Mr. Lindsell again secured the challenge trophy, but it was with a set of flowers that was far from being equal to this grower's self-made ideal. The weather seems to have been just the thing for Mr. Hill Gray's terraced garden at Newbridge, for he was showing very strongly; he was an easy winner of the champion Tea or Noisette trophy. Garden Roses were again beautifully exhibited in this section by both Mr. H. V. Machin and Mr. Alfred Tate; while the ladies' decorative section was an artistically effective feature.

We subjoin a complete list of the prizewinners in the whole of the classes, with the names of the varieties in the first prize stands, except in one instance, where the exhibitor had omitted to provide them. Photographic reproductions of Mr. Lindsell's champion trophy box will be found on page 29; of Mr. A. F. Perkins' "Garden" or Decorative Roses on page 27; and of the silver medal blooms in the amateurs' section on pages 37, 39, and 41.

Nurserymen—General Section

The champion trophy class for seventy-two trusses, distinct, is undoubtedly the great event of the Rose year, and on this occasion the interest evinced exhibited no signs of flagging, for six of the champion Rose growers contested the class. The first prize carries with the trophy a gold medal and £6. The leading honours were taken by Messrs. A.

Dickson & Sons, Newtownards, for a beautifully even exhibit. The varieties were—back row: Marchioness of Londonderry, Captain Hayward, Souvenir d'un Ami, Chas. Lefebvre, Mrs. J. Laing, Ulrich Brunner, Alice Lindsell, Janet Scott, Her Majesty, Marie Verdier, Merveille de Lyon, Gustave Piganeau, Marchioness of Dufferin, Star of Waltham, Madame Hoste, Earl Dufferin, Caroline Testout, François Michelon, Comtesse de Serenye, S. M. Rodocanachi, Maman Cochet, Helen Keller, Her Majesty, and Etienne Levet. Middle row: Duke of Fife, Kaiserin Augusta Victoria, A. K. Williams, Bessie Brown, Tom Wood, Mrs. E. Mawley, G. H. Mackereth, Margaret Dickson, Gladys Harkness, The Bride, Shandon, Florence Pemberton, Marie Baumann, La France, Mrs. W. J. Grant, Comtesse de Nadaillac, Madame Hausmann, Mildred Grant, Marie Rady, Souvenir d'Elise, Alfred Colomb, Hon. E. Gifford, Horace Vernet, and Madame Eugène Verdier. Front row: Ernest Metz, John Stuart Mill, Marchioness of Downshire, Dupuy Jamain, Avoca, Comte Raimbaud, White Lady, Mrs. Sharman Crawford, Souvenir de S. A. Prince, Xavier Olibo, Anna Ollivier, Duke of Wellington,

Niphetos, E. Y. Teas, Lady Mary Fitzwilliam, Oscar Cordel, Madame de Watteville, Marquise Litta, Baroness Rothschild, Duchesse de Morny, Muriel Grahame, Prosper Langier, Daisy, and Alice Grahame. Mr. B. R. Cant, Colchester, was second with a fresh clean collection, but the flowers were smaller than those of Messrs. Dickson. The most noteworthy varieties were Dupuy Jamain, Helen Keller, Niphetos, Clio, Thomas Mills, Dr. Andry, Ulrich Brunner, S. M. Rodocanachi, The Bride, and Beauty of Waltham. Messrs. D. Prior & Son, Colchester, were third with a creditable exhibit.

The class for forty distinct Roses, three blooms of each, proved to be one of the strongest in the show, no less than five growers competing. The first prize was awarded to Messrs. A. Dickson and Sons, Newtownards, Ireland, for a magnificent display. The boxes were even throughout, the varieties employed were Helen Keller, Caroline Testout, Muriel Grahame, La France, Etienne Levet, Mrs. S. Crawford, Marie Baumann, White Lady, Ulrich Brunner, Mildred Grant, Mrs. J. Laing, Alfred Colomb, Her Majesty, François Michelon, Alice Lindsell, Gustave Piganeau, Mrs. E. Mawley, S. M. Rodocanachi, Bessie Brown, Marquise Litta, Marchioness of Downshire, Mrs. W. J. Grant, Comtesse de Nadaillac, Janet Scott, Lady M. Beaclerk, Tom Wood, Robert Scott, Horace Vernet, Gladys Harkness, Earl Dufferin, Marchioness of Londonderry, Shandon, A. K. Williams, Avoca, Duke of Wellington, Margaret Dickson, Louis Van Houtte, Marchioness of Dufferin, and

Kaiserin Augusta Victoria. Mr. B. R. Cant, Colchester, came second, with rather smaller flowers. The best varieties were A. K. Williams, Ulrich Brunner, Merveille de Lyon, Duchesse de Morny, White Lady, and Jas. Cocker, while Messrs. F. Cant & Co., Colchester, brought up the rear.

In the class for forty-eight, distinct, single trusses, Mr. H. Dickson, Royal Nurseries, Belfast, proved the victor with a capital exhibit, though there was a slight falling off in the front row. The varieties were Gustave Piganeau, Baroness Rothschild, Mrs. J. Laing, Mrs. S. Crawford, François Michelon, Marchioness of Londonderry, Etienne Levet, La Fraicheur, S. M. Rodocanachi, Marchioness of Dufferin, Marquise Litta, White Lady, Captain Hayward, Madame Eugène Verdier, Ulrich Brunner, Caroline Testout, Marchioness of Downshire, Lady Mary Fitzwilliam, La France, Horace Vernet, Bessie Brown, Mrs. Hugh Dickson, Mrs. Ed. Mawley, Comte de Raimbaud, Mrs. W. J. Grant, A. K. Williams, Duchess of Albany, Duke of Wellington, Mrs. S. Crawford, Jeanie Dickson, Margaret Dickson, Duke of Fife, Helen Keller, Madame C. Ramey, Comtesse de Ludre, Elise Fougier, Mons. E. Y. Teas, Killarney, Tom Wood, Bridesmaid, Kaiserin Augusta Victoria, Ernest Metz, Beauty of Waltham, Miss Ethel Richardson, Danmark, Cleopatra, John Stuart Mill, and Souvenir de Madame Eugène Verdier. Messrs. J. Burrell & Co., Cambridge, were second with a bright and fresh exhibit. The best varieties were Marchioness



FIG. 8.—ROSE ULRICH BRUNNER.

of Dufferin, White Lady, Maréchal Niel, Marquise Litta, Caroline Testout, Niphetos, and Gustave Piganeau. Messrs. J. Townsend and Sons, Worcester, made a good third.

For twenty-four distinct trusses there were six competitors. Mr. W. Tayler, Osborn Nursery, Hampton, was first with fresh flowers, though they were rather small. The varieties were Ulrich Brunner, Margaret Dickson, Victor Hugo, Jeanie Dickson, S. M. Rodocanachi, Mrs. S. Crawford, Countess of Pembroke, Mrs. J. Laing, Her Majesty, Duke of Teck, Pride of Waltham, Prince Arthur, Gustave Piganeau, Augustine Guinnoisseau, Viscountess Folkestone, Horace Vernet, Duchess of Bedford, Ernest Metz, Duke of Connaught, Comtesse de Nadaillac, Comte Raimbaud, Madame Hoste, A. K. Williams, and Kaiserin Augusta Victoria. Mr. J. Mattock, New Headington, Oxford, was second with good blooms of Her Majesty, Marie Rady, Mrs. J. Laing, Etienne Levet, and Horace Vernet; while Mr. G. Prince, Oxford, was third.

In the class for twenty-four trusses, three blooms of each, there were six entries, and they made a brave show. Messrs. J. Townsend and Sons, Worcester, came out as first prizewinners. The blooms were rather uneven, especially in the front row. The varieties were Ulrich Brunner, Mrs. S. Crawford, Kaiserin Augusta Victoria, Madame Cusin, White Lady, A. K. Williams, Victor Verdier, Marquise Litta, Marchioness of Londonderry, Alfred Colomb, Marie Verdier, Mrs. J. Laing, Hon. E. Gifford, Margaret Dickson, Devoniensis, Fisher Holmes, Souvenir de S. A. Prince, Heinrich Schultheis, Niphetos, Catherine Mermet, Mrs. W. J. Grant, Madame Gabriel Luizet, Souvenir d'un Ami, and Marie Van Houtte. Mr. John Mattock was second with fresh though small blooms. The best were Marquise Litta, Tom Wood, Mrs. J. Laing, Ulrich Brunner, and Souvenir d'Elise. The third prize fell to Messrs. G. & W. H. Burch, Peterborough.

Nurserymen—Tea and Noisette Section.

For twenty-four blooms, distinct, there were four entries, and the display could only be described as moderate, many of the blooms clearly showing signs of the unfavourable weather of the past few days. Mr. Geo. Prince was awarded first prize for a capital exhibit. The varieties were Comtesse de Nadaillac, Souvenir de S. A. Prince, Maman Cochet, Innocente Pirola, Bridesmaid (grand), The Bride, Madame de Watteville, Medea, Muriel Grahame, Catherine Mermet, Rubens, Princess of Wales, Golden Gate, Maréchal Niel, White Maman Cochet, Ernest Metz, Marie Van Houtte, Anna Ollivier, Cleopatra, Madame Hoste, Madame Cusin, Alba Rosea, Souvenir d'un Ami, and Souvenir d'Elise Vardon. Mr. Prince was closely followed by Mr. B. R. Cant, who staged some good blooms; the best were Cleopatra, Niphetos, Comtesse de Nadaillac, Muriel Grahame, The Bride, and Ethel Brownlow. Messrs. F. Cant and Co. were third.

For twelve varieties, distinct, the honours were easily divided, for there were only three competitors. The first position was awarded to Mr. John Mattock for a fine exhibit of Souvenir d'Elise Vardon, Maman Cochet, Souvenir de S. A. Prince, Souvenir d'un Ami, Catherine Mermet, The Bride, Comtesse de Nadaillac, Innocente Pirola, Hon. Edith Gifford, Ethel Brownlow, Medea, and Princess of Wales. Messrs. J. Burrell & Co. must have been very close for first place. Their best blooms were Mrs. E. Mawley, The Bride, Bridesmaid, and Muriel Grahame; Messrs. Harkness & Sons, Bedale, were third.

The class for eighteen distinct varieties, three blooms each, made a beautiful display, though there were only four contestants. Again Mr. Geo. Prince came out first. The blooms were good if we except weather stains. The varieties were Comtesse de Nadaillac, Souvenir de S. A. Prince, Souvenir d'un Ami, The Bride, Madame Cusin, Golden Gate, Bridesmaid, Innocente Pirola, Maréchal Niel, Niphetos, Rubens, Muriel Grahame, Princess of Wales, Catherine Mermet, Madame Hoste, Madame de Watteville, Medea, and Maman Cochet. Messrs. D. Prior and Sons were a capital second with good blooms of Catherine Mermet, Niphetos, Maman Cochet, Ernest Metz, and Muriel Grahame; while Mr. B. R. Cant, Colchester, was third, his flowers of Medea, Golden Gate, Bridesmaid, and The Bride being good.

Nurserymen—Exhibition Roses in Vases.

In the class for twelve vases of Roses, to include not more than six varieties of Teas, seven blooms in each vase, there were five competitors. The first prize was allotted to Mr. B. R. Cant for a beautiful exhibit. The varieties were Mrs. J. Laing, Fisher Holmes, Margaret Dickson, Ulrich Brunner, Madame Gabriel Luizet, S. M. Rodocanachi, Merveille de Lyon, Baroness Rothschild, Captain Hayward, Mrs. S. Crawford, Général Jacqueminot, and Mrs. W. J. Grant. Mr. J. Mattock followed with typical bunches of Ethel Brownlow, Souvenir de S. A. Prince, Mrs. W. J. Grant, and Jeanie Dickson; while Mr. G. Prince was third. The prizes in this class were presented by F. W. Champion, Esq.

In the class for nine bunches, all three exhibitors staged Teas or Noisettes. Mr. G. Prince was well to the fore with a charming exhibit. The varieties were Marie Van Houtte, Comtesse de Nadaillac, Souvenir de S. A. Prince, Madame de Watteville, Ethel Brownlow, Souvenir d'un Ami. Mr. J. Mattock was second with good bunches of Catherine Mermet, Ethel Brownlow, Souvenir de S. A. Prince, and Anna Ollivier. Mr. B. R. Cant was third.

Nurserymen—Garden or Decorative Roses.

The garden Roses made a grand display, and attracted much attention from the visitors. The three exhibits of thirty-six bunches made a

show themselves. The blue ribbon was awarded to Messrs. Paul & Son, Cheshunt, for a beautiful collection. The varieties were Reine Olga de Wurtemberg, Madame P. Ducher, Rugosa, Madame Chas. Worth, Polyantha grandiflora, Crimson Rambler, W. A. Richardson, R. Souvenir de C. Cochet, Rosa Alba, Marquise de Salisbury, Madame Perney, Camoens, Madame Falcot, Black Moss, Claire Jacquier, Bardou Job, Common China, Madame P. Cochet, Alistair Stella Gray, Kakanlik, Blanche Moreau, Carmine Pillar, Gustave Regis, Dawn, Rugosa Fimbriata, Rosa Mundi, White Pet, Royal Scarlet, Anna M. de Montravel, L'Idéal, Una, Old Red Damask, Madame Chedane Guinnoisseau, Tuscany, The Garland, Ma Capucine, and Pysche. Messrs. G. Cooling and Sons, Bath, made a good second. Their best bunches were Cooling's Yellow Noisette, Madame Guinnoisseau, Dr. Grill, Gustave Regis, Dr. Rouge's Psyche, L'Idéal, and Beryl. Mr. John Mattock came third.

In the class for eighteen bunches of garden Roses Mr. C. Turner, Slough, had all his own way, as no other competitors put in an appearance. The exhibit was worthy of the first prize awarded. The varieties staged were Gruss au Teplitz, Common Moss, W. A. Richardson, Reine Olga de Wurtemberg, Papillon, Madame C. Guinnoisseau, Madame Charles, Anna Marie de Montravel, Souvenir de C. Guillot, Madame Falcot, Crimson Rambler, Thoresbyana, Princess Marie, Cabbage Provence, Madame Pernet Ducher, Lanrette Messimy, Crested Moss, and Rosa Mundi.

For eighteen bunches, not more than seven trusses in a bunch, only two exhibitors staged, and Mr. Chas. Turner again carried off the first prize for a good display. The varieties employed were Gruss au Teplitz, Lady Sarah Wilson, Crimson Rambler, Gustave Regis, Crimson Damask, W. A. Richardson, Rosa Mundi, Madame P. Ducher, Thoresbyana, Ma Capucine, Princess Marie, Reine Olga de Wurtemberg, Anna M. de Montravel, Alistair S. Grey, Souvenir de C. Guillot, Papa Gontier, Papillon, and Madame Falcot. Mr. J. Mattock was second with fair bunches of Papillon, L'Idéal, Hebe's Lip, and Isabella Sprunt.

Open—General Section.

In the open class for twelve blooms of Hybrid Teas there were seven entries, and Messrs. A. Dickson & Sons were to the fore with a splendid box. The varieties were Marquise Litta, White Lady, Mrs. W. J. Grant, Caroline Testout, Bessie Brown, La France, Charlotte Guillemot, Rosomène, Alex. Huguier, Kaiserin Augusta Victoria, Souvenir de Madame Eugène Verdier, Madame Jules Grolez, and Madame C. Ramey. Mr. B. R. Cant was second with good flowers of Mrs. W. J. Grant, Marquise Litta, Bessie Brown, and White Lady. The third place was allotted to Messrs. F. Cant & Co.

For twelve blooms of any yellow Rose there were five competitors, Mr. G. Prince coming out well with Comtesse de Nadaillac. Messrs. Harkness & Sons were second with a good box of Maréchal Niel, and Mr. J. Mattock third with Comtesse de Nadaillac.

White Roses proved a popular class, no less than eight competitors staging twelve blooms, one variety. Messrs. A. Dickson & Sons led with Bessie Brown, grand blooms, but weather-stained; Mr. B. R. Cant was a good second with clean flowers of Merveille de Lyon, and Messrs. D. Prior & Son third with neat blooms of The Bride.

For twelve blooms any light or dark crimson Rose there were eleven boxes staged, most of them in excellent condition. Mr. Hugh Dickson was a good first with grand blooms of Captain Hayward; Messrs. Dickson & Sons were second with charming flowers of Marquise Litta; while Messrs. J. Townsend & Sons were a good third with the same variety.

A grand entry of eighteen boxes was staged for twelve Roses of any light pink or rose-coloured variety. Messrs. Dickson & Sons again brought Ireland to the fore by winning handsomely with a grand box of Mrs. W. J. Grant. Messrs. Harkness and Sons followed with Mrs. J. Laing in fine form; while Messrs. Townsend & Sons were third with the same variety.

For twelve blooms, any Tea or Noisette, eight boxes were staged, and the first prize was allotted to Mr. B. R. Cant for some beautifully coloured blooms of Bridesmaid. Messrs. Dickson & Sons were second with a good exhibit of Mrs. Ed. Mawley a little weather stained; and Messrs. Harkness & Sons third with Souvenir d'Elise Vardon.

There were only three entries for nine blooms of any new Rose. Messrs. A. Dickson & Sons were well to the front with Alice Lindsell. Mr. B. R. Cant came second with good blooms of Mrs. Cocker, and Messrs. F. Cant & Co. third with Mrs. F. Cant.

In the class for twelve distinct varieties of Roses, offered in lists from 1897, the competition was limited to five entries. Messrs. Dickson & Sons received first honours with Madame C. Ramey, Mrs. Edward Mawley (grand) Bessie Brown, Rev. A. Cheales, Ada Carmody, White Maman Cochet, Countess of Caledon, Madame Jules Grolez, Madame L. Bouillet, Killarney, Liberty, and Lady Mary Corry. Messrs. F. Cant & Co., Colchester, made a good second with Ulster, Madame E. Bouillet, Killarney, Mrs. F. Cant, and Bessie Brown; Mr. B. R. Cant was third.

Open—Decorative Class.

For three sprays suitable for ladies' wear with any foliage or Grasses, Mrs. O. G. Orpen was easily first for three light graceful sprays. Mr. J. Mattock was second with heavier arrangements, and Miss B. H. Langton third.

Open—Garden and Decorative Roses.

The single Roses were admirable, and the class for twelve distinct bunches brought out four competitors. Messrs. Paul & Son, Cheshunt, led with a fine collection of *rugosa alba*, *Carmine Pillar*, *polyantha grandiflora*, *Pink Roamer*, *macrantha*, *rubifolia Brunonis*, *rugosa* × *humilis*, *Paul's Single White*, *Wichuriana* × *Général Jacqueminot*, *Andersoni*, and *Brenda*. Messrs. G. Cooling & Sons were second with good bunches of *Royal Scarlet*, *Cooling's Single Scarlet Bedder*, and *rugosa alba*; while Mr. Chas. Turner brought up the rear.

The class for nine distinct varieties of Roses suitable for buttonholes made a pleasing display, and brought out five exhibits. The first prize was awarded to Mr. J. Mattock for a delightful exhibit of true buttonhole Roses. The varieties were *Souvenir de Catherine Guillot*, *Safrano*, *Anna Ollivier*, *Amazona*, *The Bride*, *Gustave Regis*, *Rubens*, *Madame Chedane Guinnoisseau*, and *Ma Capucine*. Mr. H. V. Machin was second; his best were *Marquise de Salisbury*, *Marie Van Houtte*, *Rubens*, and *Anna Ollivier*; and Mr. G. Prince third.

Nurserymen—Premier Blooms.

The National Rose Society offered three silver medals for the premier blooms, and they were awarded as follows:—For the best Hybrid Perpetual, to *Suzanne Marie Rodocanachi*, exhibited by Messrs. Alex. Dickson & Sons; for the best Tea or Noisette, to *Bridesmaid*, exhibited by Mr. George Prince; and for the best Hybrid Tea, to *Mildred Grant*, exhibited by Messrs. Alex. Dickson & Sons. The blooms were all superb.

Amateurs—General Section.**Amateur Champion Class.**

This is for thirty-six blooms, distinct varieties, and it is the centre of interest at every Crystal Palace Show. On the present occasion there were five competitors. The premier prize carries with it the champion trophy, which is held for one year, and a replica as a permanent memento. E. B. Lindsell, Esq., Hitchin, was first, but the flowers generally were not up to his customary standard. There were some excellent blooms, and some that had suffered from the weather. The varieties were *Mrs. J. Laing*, *Marquise Litta*, *White Lady*, *Gustave Piganeau*, *Mrs. W. J. Grant*, *François Michelon*, *Her Majesty*, *Capt. Hayward*, *Madame G. Luizet*, *Marie Baumann*, *Marchioness of Londonderry*, *Ulrich Brunner*, *Maurice Bernardin*, *Madame Cusin*, *Muriel Grahame*, *Louis Van Houtte*, *Prince Arthur*, *The Bride*, *A. K. Williams*, *Innocente Pirola*, *Chas. Lefebvre*, *Comtesse de Nadaillac*, *Souvenir d'Elise Vardon*, *Mrs. Mawley*, *Kaiserin Augusta Victoria*, *Dupuy Jamain*, *Lady Mary Fitzwilliam*, *E. Y. Teas*, *Caroline Kuster*, *Duke of Wellington*, *Catherine Mermet*, *S. M. Rodocanachi*, *La France*, *Helen Keller*, *Bessie Brown*, and *Madame Eugène Verdier*. Mr. C. J. Salter, gardener to Mrs. Haywood, Reigate, was second, his best blooms being *Her Majesty*, *Ulrich Brunner*, *Merveille de Lyon*, *Clio*, *Comte Raimbaud*, and *François Michelon*. Mr. T. Hobbs was third.

This class, for twenty-four distinct single trusses, is open to all amateurs who have not previously won either the champion challenge trophy or the first prize in the class. The chief award in this class consists of a piece of plate, value 5 guineas, presented by Messrs. Harkness & Son. O. G. Orpen, Esq., was an excellent first with *S. M. Rodocanachi*, *Maréchal Niel*, *La France*, *White Lady* (superb), *Marquise Litta*, *Mrs. Sharman Crawford*, *Earl of Dufferin*, *Her Majesty*, *Bridesmaid*, *Ulrich Brunner*, *Lady Mary Fitzwilliam*, *Mrs. John Laing*, *Kaiserin Augusta Victoria*, *François Michelon*, *Merveille de Lyon*, *Marie Finger*, *Mrs. W. J. Grant*, *Anna Ollivier*, *Comtesse de Ludre*, *Madame Hoste*, *Marie Verdier*, *Souvenir d'Elise Vardon*, *The Bride*, and *Ernest Metz*. Mr. W. Mease was second with an even stand, comprising *White Lady* (grand), *Mrs. J. Laing*, *Gustave Piganeau*, *La France*, and *Mrs. W. J. Grant*. Mr. T. Hobbs was a fair third. There were ten competitors.

Open to all Amateurs.—In the class for twelve distinct varieties, three blooms of each, the premier position was taken by Mr. C. J. Salter with *Ulrich Brunner*, *Her Majesty*, *Alfred Colomb*, *Mrs. J. Laing*, *Gustave Piganeau*, *La France*, *François Michelon*, *Marie Baumann*, *Abel Carrière*, *S. M. Rodocanachi*, *A. K. Williams*, and *Tom Wood*. Mr. W. Mease was second with *La France*, *Mrs. J. Laing*, *S. M. Rodocanachi*, and *Alfred Colomb* as his best. The Rev. J. H. Pemberton was third. There were four entries.

There were eight competitors in the class for twelve blooms of any Rose other than a Tea or Noisette. E. B. Lindsell, Esq., was first with *Mrs. John Laing* in splendid form, Mr. H. V. Machin second with *Mrs. W. J. Grant*, and Mr. C. J. Grahame, *Leatherhead*, third with *Mrs. J. Laing*.

Open to Growers of less than 2000 Plants.—As the first prize in a class for twenty-four blooms, distinct varieties, a piece of plate value 3 guineas was offered by Mr. Chas. Turner, and the coveted position was taken by E. M. Bethune, Esq., Horsham, who exhibited *Duke of Edinburgh*, *Mrs. Sharman Crawford*, *Marquise Litta*, *Mrs. J. Laing*, *Ulrich Brunner*, *Madame G. Luizet*, *Marie Baumann*, *La France*, *S. M. Rodocanachi*, *Alf. Colomb*, *Comtesse de Nadaillac*, *Chas. Lefebvre*, *Kaiserin Augusta Victoria*, *A. K. Williams*, *Mrs. W. J. Grant*, *J. S. Mill*, *The Bride*, *Duke of Teck*, *Grand Mogul*, *Bridesmaid*, *Louis Van Houtte*, *Caroline Testout*, *Marie Rady*, and *Capt. Hayward*. Mr. F. Tattersall, Morecambe, was second with *Pride of Reigate*, *Bessie Brown*, *Gustave Piganeau*, *Star of Waltham*, and *Marchioness of Downshire* as his best. Mr. R. E. West was third.

E. Mawley, Esq., won the first prize for eighteen Roses, distinct, single trusses, with *Caroline Testout*, *Madame Jules Finger*, *Ulrich Brunner*, *Kaiserin Augusta Victoria*, *A. K. Williams*, *Mrs. W. J. Grant*, *Marquise Litta*, *Duke of Wellington*, *Her Majesty*, *Chas. Lefebvre*, *La France*, *Captain Hayward*, *Bridesmaid*, *Madame Gabriel Luizet*, *Gustave Piganeau*, *Margaret Dickson*, *Beauty of Waltham*, and *Marie Finger*. P. Burnand, Esq., Reigate, was second with *Her Majesty*, *Maman Cochet*, *Mrs. John Laing*, and *Madame Gabriel Luizet* as his best. Conway Jones, Esq., was third.

For eight distinct varieties, three blooms of each, arranged triangularly, the competition was keen. Conway Jones, Esq., was first with *Mrs. W. J. Grant*, *Duchess of Bedford*, *Mrs. J.*

Laing, *Ulrich Brunner*, *Duke of Wellington*, *Helen Keller*, *A. K. Williams*, and *Caroline Testout*. Mr. E. Mawley was second, and Mr. R. E. West third.

Mr. Percy Burnand was most successful in the class for nine blooms of any Rose, except a Tea or Noisette, with *Mrs. Sharman Crawford* in superb form; Mr. E. M. Bethune second with *Ulrich Brunner*; and Mr. W. C. Romaine third with *Mrs. J. Laing*. There were seven entries.

Open to Growers of less than 1000 Plants.—Messrs. J. Jefferies & Sons offered a piece of plate, value 2 guineas, for twelve distinct, single trusses, and R. Foley Hobbs, Esq., was placed first. The varieties were *Ulrich Brunner*, *Maréchal Niel*, *S. M. Rodocanachi*, *Mrs. W. J. Grant*, *Mrs. J. Laing*, *A. K. Williams*, *Marchioness of Downshire*, *Souvenir d'un Ami*, *Duke of Edinburgh*, *Killarney*, *Niphetos*, and *Fisher Holmes* (poor). Mrs. Croft Murray was second with a splendid box, and the Rev. R. Powley third. There were a baker's dozen entries.

There were eleven exhibitors in the class for six blooms of any Rose other than a Tea or Noisette, and Mr. G. W. Cook was first with *Mrs. J. Laing*, Mr. J. Bateman second with *Mrs. Sharman Crawford*, and Miss B. Langton third with *La France*.

Open to Growers of less than 500 Plants.—The premier award in the class for nine blooms, distinct varieties, was a piece of plate, value 2 guineas, given by F. Dennison, Esq. The first prize was



FIG. 9.—ROSE MURIEL GRAHAME.

won by E. R. Smith, Esq., Muswell Hill, with Gustave Piganeau, Maman Cochet, Ulrich Brunner, Mrs. J. Laing, Captain Hayward, Jeanie Dickson, Général Jacqueminot, S. M. Rodocanachi, and Mrs. Sharman Crawford. Mr. R. W. Bowyer was an excellent second with Mrs. W. J. Grant, Marquise Litta, White Lady, and Madame Gabriel Luizet as his best blooms. Mrs. L. E. Times, Hitchin, was third.

In the first prize box of six, distinct, Mr. K. H. Gifford, Sutton, showed the following varieties:—Capt. Hayward, Mrs. J. Laing, Mrs. Sharman Crawford, François Michelin, S. M. Rodocanachi, and Duke of Wellington. Mr. R. Cook, Stonebridge Park, was a fair second; and Mr. G. A. Hammoud, Burgess Hill, was third. There were thirteen entries in this class.

Mr. E. Bewley, Dublin, secured the premier award with Caroline Testout in capital condition in the class for six blooms of any Rose other than a Tea or Noisette. Mr. K. H. Gifford was a close second with Mrs. J. Laing, in excellent condition. Mr. R. W. Bowyer was third with the same variety.

The Grahame Challenge Cup.—Only growers eligible to compete in the five classes immediately preceding can enter for the cup presented by C. J. Grahame, Esq., and which must be won three times before becoming absolute property. It is for twelve blooms distinct, and it was handsomely won by the Rev. A. C. Johnson, Ipswich, with Souvenir d'Elise Vardon, Mrs. Sharman Crawford, Capt. Hayward, S. M. Rodocanachi, Madame de Watteville, Mrs. J. Laing, Gustave Piganeau, Cleopatra, A. K. Williams, Catherine Mermet, Horace Vernet, and Alf. Colomb. Mr. G. Moules, Hitchin, was second; and Mr. H. P. Landon third. There were about eighteen entries.

This class for four trebles was subject to the same restriction as the Grahame challenge cup class. Mr. J. Bateman was first with Captain Hayward, Mrs. John Laing, Mrs. W. J. Grant, and A. K. Williams. The Rev. R. Powley was a fair second; and Mr. G. W. Cook third.

The Ramsay Cup.—The value of this cup, which is offered by Captain Ramsay for twelve distinct varieties, is 10 guineas, and is open for competition by all amateurs who have not twice previously won it. P. Burnand, Esq., was an excellent first with Mrs. J. Laing, Captain Hayward, Caroline Testout, Alfred Colomb, Ulrich Brunner, Mrs. Sharman Crawford, Louis Van Houtte, Her Majesty, Dr. Hogg, S. M. Rodocanachi, A. K. Williams, and Mrs. W. J. Grant. The Rev. J. H. Pemberton was a good second; and Colonel T. H. Pitt, Maidstone, third.

Extra Classes.—Messrs. D. Prior & Son offered a piece of plate, value 3 guineas, as first prize in a class for six distinct varieties, open only to growers who have never won a prize at an exhibition of the National Rose Society. Mrs. E. A. Moulden, Stevenage, was first with Caroline Testout, Ulrich Brunner, Mrs. J. Laing, The Bride, Dupuy Jamain, and White Maman Cochet. R. Boswell, Esq., Hitchin, was second; he had white Maman Cochet and Mrs. J. Laing in good form. W. Upton, Esq., Belgrave, Leicester, was third. There were seventeen competitors.

The prizes in a further class for six distinct, open to growers who have never won a first prize at an exhibition of the National Rose Society, are given by C. J. Grahame, Esq. Mrs. E. A. Moulden was first with Caroline Testout, Dupuy Jamain, The Bride, White Maman Cochet, Mrs. J. Laing, and Ulrich Brunner. Mrs. Boswell was second, and Mrs. W. H. Davis third.

For growers who have joined the National Rose Society since the last Crystal Palace Show, a class for six distinct single trusses was provided, and the first place was secured by Mr. R. Boswell, Hitchin, with Mrs. J. Laing, The Bride, Duke of Connaught, Madame Hoste, Madame Gabriel Luizet, and Catherine Mermet. M. White, Esq., Wateringbury, was second, and Mrs. E. A. Moulden third.

The Langton Memorial Cup.—This is offered in addition to the first prize for six distinct single trusses, grown within eight miles of Charing Cross. Should this challenge cup be won three times by the same grower it becomes his property. The first and second prizes are given by E. Mawley, Esq. Mr. G. W. Cook was an easy first with Mrs. J. Laing, Ulrich Brunner, Marchioness of Londonderry, Heinrich Schultheis, François Michelin, and Mrs. Sharman Crawford. Mr. E. R. Smith, was second, and Mr. J. Bateman third.

New Roses.—This was a class open to all amateurs for six new Roses, distinct varieties; a list of the available Roses was procurable from the honorary secretaries prior to the exhibition. Mr. F. Tattersall was first with Daisy, Rev. Alan Cheales, Ulster, Bessie Brown, Killarney, and Shannon; Conway Jones, Esq., was a good second; and Mr. J. Bateman third.

Amateurs—Tea and Noisette Section.

Tea and Noisette Trophy Class.—In this class, for eighteen distinct varieties, the premier prize carried with it the Tea and Noisette trophy value 25 guineas. This is held for one year, but a memorial replica is also given. This class creates almost as much interest as the champion trophy class, and on the present occasion it was won by A. Hill Gray, Esq., Bath. The varieties were Maman Cochet, Souvenir d'Elise Vardon, Muriel Grahame, Bridesmaid, Medea, White Maman Cochet, Innocente Pirola, Comtesse de Nadaillac, The Bride, Catherine Mermet, Madame Cusin, Cleopatra, Golden Gate, Caroline Kuster, Ernest Metz, Souvenir de S. A. Prince, Princess Beatrice, and Souvenir d'un Ami. The Rev. F. R. Burnside was second; his best blooms were Maman Cochet, Catherine Mermet, Bridesmaid, Sylph, Cleopatra, and Madame Hoste. O. G. Orpen, Esq., secured the third prize.

Open to All Amateurs.—For twelve distinct Teas or Noisettes Mr. A. Hill Gray was again first with Maman Cochet, Caroline Kuster, Bridesmaid, The Bride, Souvenir d'Elise Vardon, Madame Cusin, Comtesse de Nadaillac, Muriel Grahame, Catherine Mermet, Medea, Souvenir de S. A. Prince, and Souvenir d'un Ami. Mr. W. Mease was a fair second, and the Rev. H. Berners third.

A piece of plate was offered by C. J. Grahame, Esq., for eight distinct varieties, three blooms of each, and it was won by A. Hill Gray, Esq., who showed Maman Cochet, Medea, Souvenir d'Elise Vardon, Comtesse de Nadaillac, Innocente Pirola, Madame Cusin, Catherine Mermet, and Bridesmaid. Mr. E. M. Bethune was a poor second, and the Rev. A. Foster Melliar, Ipswich, an excellent third. There were nine entries.

For nine blooms of any Tea or Noisette Mr. A. Hill Gray was first with refined examples of The Bride. Mr. E. M. Bethune was second with Catherine Mermet, and the Rev. A. Foster Melliar third with Maréchal Niel.

Open to Growers of less than 500 Plants.—The first and second prizes in a class for twelve distinct varieties were provided by Mr. George Prince. There were five exhibitors, and the Rev. R. Powley, Warminster, was placed first with small, fairly fresh flowers of Catherine Mermet, Innocente Pirola, Souvenir d'un Ami, Maman Cochet, Comtesse de Nadaillac, Madame de Watteville, Anna Ollivier, The Bride, Cleopatra, Souvenir d'Elise Vardon, Bridesmaid, and Souvenir de S. A. Prince. Conway Jones, Esq., Gloucester, was second with Niphotos, Madame de Watteville, Madame Cusin, and Souvenir d'Elise Vardon as the best flowers. T. A. Washbourn, Esq., Gloucester, was a good third.

R. Foley Hobbs, Esq., Worcester, secured the premier place with nine distinct varieties, showing Empress Alexandra of Russia, Souvenir d'un Ami, Niphotos, Catherine Mermet, Bridesmaid, Maman Cochet, Madame de Watteville, Medea, and Muriel Grahame, all in excellent condition. Mrs. E. C. Murray, Ryde, I.W., was a poor second, and E. Mawley, Esq., third.

For six blooms of any one variety there were seven competitors. Conway Jones, Esq., was first with Maréchal Niel in beautiful colour; the Rev. F. R. Burnside second with Madame Hoste, and Miss B. Langton third with Maman Cochet, small and somewhat weathered.

Open to Growers of less than 200 Plants.—Dr. J. C. Hall offered a piece of plate, value 2 guineas, as a first prize in a class for nine distinct varieties, and it was won by Mr. M. Whittle, Leicester, who showed Souvenir d'un Ami, Madame Hoste, Innocente Pirola, Muriel Grahame, Comtesse de Nadaillac, Ernest Metz, Cleopatra, Medea, and Maman Cochet; an excellent box. E. Bewley, Esq., was second, and Mr. A. Munt, Slough, third.

There were seven exhibitors in the class for six Teas and Noisettes, distinct, and Mr. C. F. Leslie, Hertford, was first with White Maman Cochet, Catherine Mermet, Cleopatra, The Bride, Madame Cusin, and Maman Cochet. Mr. R. W. Bowyer was a close second, and Mr. F. Wellesley third.

In the class for six blooms of any Tea or Noisette Mr. J. C. Trueman, Swanley, was first with Innocente Pirola (small but fresh). Mr. G. A. Hammond was second with Medea, and Mr. A. Slaughter with the Hon. Edith Gifford.

Extra Classes.—In an extra class for four trebles, open only to those eligible for the six classes immediately preceding, R. E. West, Esq., offered a piece of plate, value 2 guineas, as a first prize. The Rev. R. Powley was first with Medea, Catherine Mermet, Bridesmaid, and The Bride. Mr. R. Foley Hobbs was second, and the Rev. F. R. Burnside third.

In a class for six blooms, in not less than three varieties, open only to growers who have never won a prize at an exhibition of the National Rose Society, the awards were provided by C. J. Grahame, Esq. Mr. W. Upton, Leicester, was first with Innocente Pirola, Princess of Wales, Madame Hoste, Maman Cochet, Cleopatra, and Comtesse de Nadaillac. Mr. M. White was second, and Mr. H. Wakeley, Rainham, third.

Amateurs—Exhibition Roses in Vases.

Messrs. F. Cant and Co. offered a piece of plate, value 5 guineas, for nine distinct varieties, not more than four varieties of Teas or Noisettes, five blooms of each, exhibited in nine vases in a space not to exceed 5 feet by 4 feet. Mr. H. V. Machin was first with Mrs. W. J. Grant, Mrs. Sharman Crawford, Ulrich Brunner, Kaiserin Augusta Victoria, A. K. Williams, Mrs. J. Laing, Marquise Litta, La France, and Margaret Dickson. The second prize was taken by the Rev. J. H. Pemberton, and the third by Mr. F. W. Campion.

In a class for six distinct varieties of Teas or Noisettes, seven blooms of each, exhibited in vases in a space not to exceed 4 feet by 3 feet, Messrs. Paul & Son offered a piece of plate, value 3 guineas, as the first prize. Mr. O. G. Orpen was an excellent first with Caroline Kuster, Souvenir d'un Ami, The Bride, Souvenir de S. A. Prince, Anna Ollivier, and Innocente Pirola. Miss B. Langton was second.

Amateurs—Ladies' Decorative Class.

There were five exhibitors in the class for a vase of cut Roses lightly arranged with any cut foliage, Ferns, or Grasses. It was necessary that the vase be an upright ornament, having only one

receptacle for flowers. Miss B. Langton was first with an arrangement of La France Roses and Fern; the effect was very good. Mrs. J. Fearon, Birdhurst, Reigate, was second; and Miss West, Firth Dene, Reigate, third.

Amateurs—"Garden" or Decorative Roses.

In respect of this section the schedule says:—"Exhibits in this section may be staged in vases, boxes, or other receptacles. Each variety to be in a separate receptacle. All Hybrid Perpetuals (except the single-flowered varieties) are to be excluded. All Teas and Noisettes and Hybrid Teas mentioned in the N.R.S.'s catalogue of exhibition Roses are also to be excluded. Moss, Provence, and other summer-flowering Roses may be included." The premier prize in the class for twelve distinct varieties, not less than three trusses of each (space occupied not to exceed 5 feet by 3 feet), was a silver cup value 5 guineas, presented by Miss Ellen Willmott, and there were five contestants. Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, was placed first with Reine Olga de Wurtemberg, Macrantha, Marquise Babbiano, Madame Pernet Ducher, Bardou Job, Moschata Nivea, Wm. Allan Richardson, Augustine Guinnoisseau, Alistair Stella Gray, Hebe's Lip, Marquise de Salisbury, and Perle d'Or. The flowers were of excellent quality, and the bunches were well arranged. O. G. Orpen, Esq., West Bergholt, Colchester, was second with excellent flowers more loosely arranged. H. V. Machin, Esq., Gateford Hill, Workop, was third, but the show was rather too early for this northern grower.

The Girdlestone Memorial Prize.—This was offered for nine distinct varieties, not less than three trusses of each (space occupied not to exceed 4 feet by 3 feet), and the coveted award was won by Mr. A. F. Perkins, Oakdene, Holmwood. The varieties included Madame Pernet Ducher, Carmine Pillar, Gustave Regis, Marquise de Salisbury, W. A. Richardson, Moschata, Perle d'Or, Meg Merrilies, and Camoens. Miss D. A. Nesfield, Speldhurst, was a fair second; and Miss B. Langton third.

There were two exhibitors in the class for six distinct varieties, not less than three trusses of each (space occupied not to exceed 3 feet by 3 feet). This was open only to amateurs who have never won a prize for garden or decorative Roses at an exhibition of the National Rose Society. The chief prize was a piece of plate, value 2 guineas, offered by O. G. Orpen, Esq. The premier position was adjudged to G. W. Cook, Esq., Finchley, who staged excellent bunches, but the varieties were unnamed. E. Mawley, Esq., was second with rather closer built bunches of good quality.

In a further class, open to all amateurs, for nine distinct varieties, not less than three or more than seven trusses of each (space not to exceed 4 feet by 3 feet) there were four competitors. In this case H. V. Machin, Esq., was easily first with an attractive stand, comprising Gustave Regis, Lucy Ashton, Madame Pernet Ducher, Anne of Gierstein, Paul's Single White, Red Damask, Fimbriata, Meg Merrilies, and Rosa Mundi. The Rev. J. H. Pemberton was second with Laurette Messimy and moschata as his best. Mr. A. F. Perkins was third.

Sweet Brier Roses.—This class was for six vases of Sweet Brier Roses, in distinct varieties, and not more than seven trusses in a bunch. The first place was adjudged to F. W. Champion, Esq., Reigate, with Brenda, Lucy Bertram, Anne of Gierstein, Jeanie Deans, Green Mantle, and Lady Penzance. H. V. Machin, Esq., was second; and G. H. Baxter, Esq., Brentwood, third. This was a charming class.

Amateurs—Premier Blooms.

The National Rose Society offered three silver medals for the premier blooms, and they were awarded as follows:—For the best Hybrid Perpetual to Ulrich Brunner, exhibited by G. W. Cook, Esq.;

for the best Tea or Noisette to Muriel Grahame, exhibited by E. B. Lindsell, Esq.; and for the best Hybrid Tea to Mrs. W. J. Grant, exhibited by E. Bewley, Esq. It is superfluous for us to say that these flowers were all superb. Ulrich Brunner is shown in fig. 8; Muriel Grahame is shown in fig. 9; and Mrs. W. J. Grant is shown in fig. 10.

The Management of the Show.

We should be doing an injustice if we closed our report of the competitive section of the Crystal Palace Rose Show if we did not make reference to the admirable arrangements that were made. These were, as far as possible, complete, and it was a matter of ease to find almost any class, as the numbers were consecutive with the exception of the Tea and Noisette classes in the amateur section, which got to the wrong side of the nave. Perhaps even this little point will be altered next year. Mr. Mawley, the active honorary secretary, was indefatigable, as were some assistants he had pressed into service. Mr. G. Caselton, garden superintendent at the Crystal Palace, did most excellent service in the arrangement of the tables, both for competitive and non-competitive exhibits.

Non-Competitive Exhibits.

Though essentially a Rose show pure and simple we found a few trade growers adding to the general display with various plants and flowers. Thus Messrs. J. Laing & Sons, Forest Hill, contributed Ivies, double and single tuberous-rooted Begonias, Streptocarpuses, shrubs, and hardy flowers; Messrs. Barr and Sons, Covent Garden, R. Wallace and Co, Colchester, and Maurice Prichard, Christchurch, hardy flowers; Messrs. J. Carter & Co., High Holborn, Petunias and Gloxinias; Mr. W. Rumsey, Joynings Nurseries, Waltham Cross, cut Roses; Messrs. G. Jackman & Son, Woking, Roses, Carnations, and herbaceous flowers; Messrs. J. Cheal & Sons, Lowfield Nursery, Crawley, Violas and general hardy flowers; Messrs. Spooner and Son, Hounslow, cut Roses, and Messrs. J. Peed & Son, Upper Norwood, Caladiums.

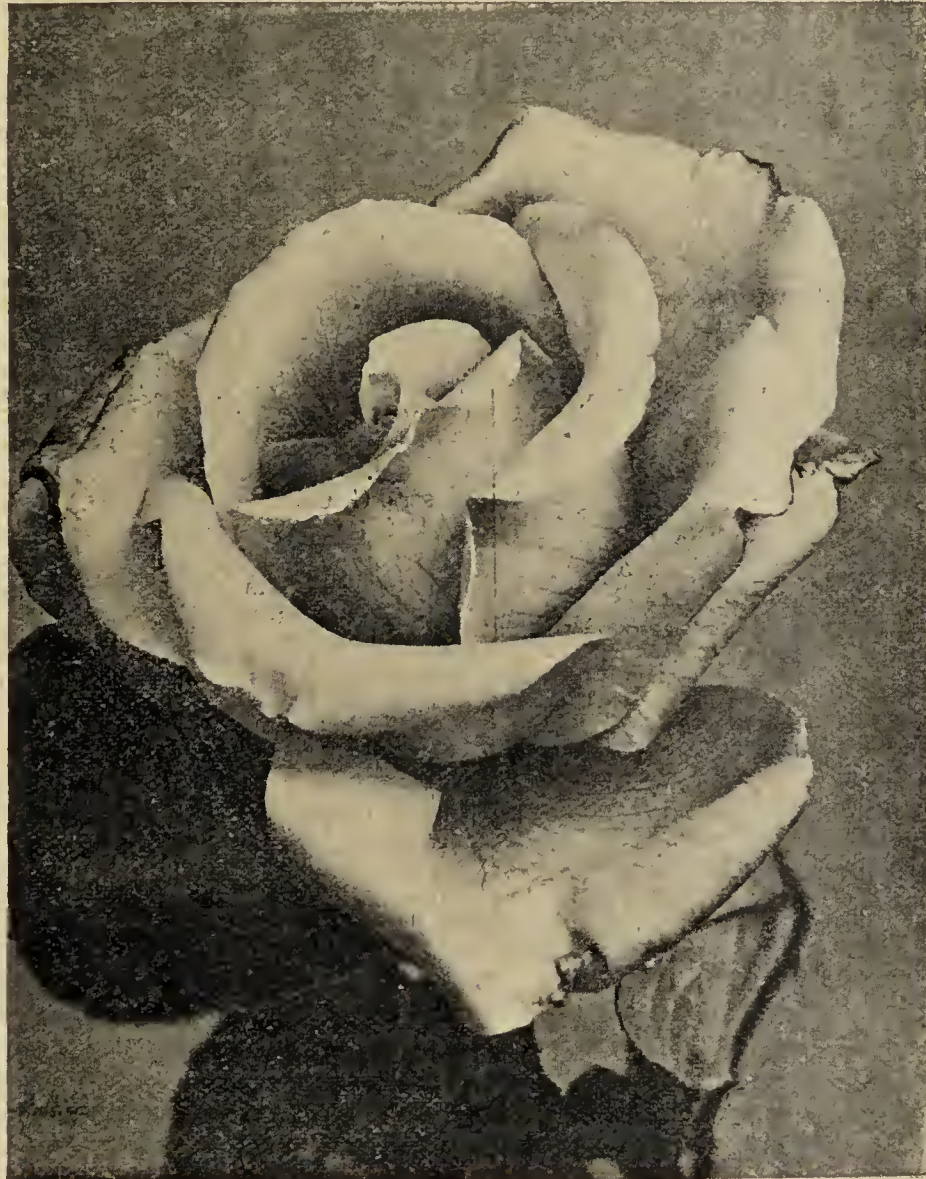


FIG. 10.—ROSE MRS. W. J. GRANT.

Hereford, July 4th.

THE thirty-fourth annual exhibition was held in the Shire Hall, when doubtless greatly owing to the numerous fixtures for the same day, but chiefly to the abnormal lateness of a season remarkable, almost without precedent, for low temperatures and absence of sunshine, with but indifferent success.

How damaging meteorological aberrations have been to bring about this unfortunate result, it is only necessary to mention that whereas there were seven seventy-two's staged lately, only one was in evidence to face the judges on Wednesday last.

Messrs. Dickson & Sons of Newtownards, and Uplands, Ledbury, exhibited in their best form, and swept the board in carrying off every first prize in which they could compete; in fact the hacknied quotation, "The Hamlet in the play," was verified as regards the firm to the letter. It is not too much to remark that their collections interested and engrossed a more than usually numerous attendance of the public by their superb blooms who otherwise, in true British fashion, would have been grunting and grumbling over the vacant rows. Messrs. Townsend & Son, Lower Broad Heath, Worcester, carried off with excellent blooms the thirty-six varieties' first prize, as well as the second in the other classes in which they competed, except the second (twelve) for Teas and Noisettes, which fell to a fine well set up collection by Mr. Mattock, New Headington, Oxford.

Subjoined is Messrs. Dickson & Sons', Newtownards, seventy-two varieties. A truly magnificent collection, in which it was almost impossible to select a single weak specimen. Your readers will notice a mark (*) distinguishes the blooms worthy of special notice; a double mark (**) those pre-eminently so. Back row: Her Majesty,* Helen Keller, Marchioness of Dufferin, Louis Van Hontte, Mrs. Sandford,

Marquise Litta, Le Havre, Bessie Brown,** Horace Vernet, Alice Lindsell,** Janet Scott,* G. H. Mackereth,* Suzanne Rodocanachi, La France, Ulrich Brunner, Mrs. E. Mawley,** Gustave Piganeau, Danmark, Ulster, Mildred Grant,** Liberty, Marchioness of Londonderry, Duchess of Albany, A. Soupert, Mrs. W. J. Grant. Middle row: Madame Eugène Verdier,* Niphetos, A. K. Williams, Mrs. John Laing, Lady Moyra Beauclerk, Kaiserin Victoria, E. Y. Teas, Marie Verdier,* Souvenir d'un Ami, Mrs. Conway Jones, Maréchal Niel,* François Michelin, Marchioness of Downshire, Tom Wood,** Caroline Testout, Etienne Levét, Madame de Watteville, Exposition de Brie, Countess de Nadaillac,* Marie Baumann, Souvenir d'Elise, Earl of Dufferin, Fisher Holmes, Madame Hoste, Eclair. Front row: Muriel Grahame,* Heinrich Schultheis, Mary Dickson, Duke of Wellington, Souvenir de Sarah Prince, Madame Cusin, Cleopatra, Duchess of Bedford, Duke of Fife, Alice Grahame, Gladys Harkness, The Bride, Xavier Olibo, Baroness Rothschild, Alfred Colomb, Mdle. Thérèse Levét, Mrs. Sharman Crawford, Avoca,* Victor Hugo, Robert Scott, Dupuy Jamain, Daisy, Prince Arthur,* Souvenir de President Carnot, Général Jacqueminot. There were no other competitors in this class.

In the amateur division Mr. Conway Jones had it all his own way with bright, well set up if somewhat small blooms in the four premier classes, as well as the N.R. Society's medal for the best Tea Rose (the Bride). The other two N.R. Society's medals fell to Mr. Foley Hobbs, with a lovely bloom of Mrs. John Laing, and in the Herefordshire amateur division to Rev. Preb. Ashley with Mrs. W. J. Grant.

In the class for twelve varieties, single bloom, dark Roses.—First (Tom Wood) Messrs. Dickson; second (Duke of Wellington) Messrs. Townsend. Light Rose.—First (Mrs. Crawford) Messrs. Dickson; second (John Laing) Messrs. Townsend. White.—First (Margaret Dickson) Messrs. Dickson; second, ditto, Messrs. Townsend. Yellow.—First (Kaiserin Augusta Victoria) Messrs. Dickson; second, ditto, Messrs. Townsend.

The class for herbaceous plants was unusually well filled and staged, and, in deciding on their respective merits, must have given some trouble to our old friend, that experienced all-round judge, Mr. Coleman. The first prize fell to Rev. A. Lee with a charming group of interesting varieties. The judges in the professional classes were the Rev. C. H. Bulmer, Credenhill Rectory; and Mr. Conway Jones, Hucclecote, Gloucester. In the amateur classes Mr. A. Dickson and Mr. Drew, Newtownards, and Uplands, Ledbury. In the herbaceous, &c., class Mr. W. Coleman, Eastnor Castle Gardens.—HEREFORDSHIRE INCUMBENT.

Ipswich, July 4th.

THIS show was held in the Upper Arboretum, in the large cross-shaped tent that lends itself so admirably to the natural divisions of a flower show. The arrangements were well managed, there was no rain, even a glimpse of sun occasionally, and with a capital attendance the show must be considered a success. The Roses were by no means up to the mark, the season at present being adverse. For thirty-six Messrs. Frank Cant & Co. were first, Oscar Kordel, a good broad-petalled Rose, and La France de '89, quite a good bloom, being the most noticeable flowers to connoisseurs. In a dull, cold, damp season like the present we often see varieties which are worthless in real summer weather shown very well. It is quite worth while to grow some "thin" sorts. Mr. B. R. Cant was second, and Messrs. D. Prior & Son third. In twelve trebles Mr. B. R. Cant was first with Mrs. W. J. Grant and Mrs. John Laing in good form. Mr. Frank Cant second, and Messrs. Prior third. For twelve Teas Messrs. Prior first, and Mr. Frank Cant second with a low standard. For six H.P.'s of a sort Mr. B. Cant was first with good Ulrich Brunner, Messrs. Prior second with La France, and Mr. Frank Cant third with Ulrich Brunner, the last two exhibits being poor. In six Teas of a sort Mr. B. R. Cant won with lovely Bridesmaids, Messrs. Prior second with Souvenir de S. A. Prince, Mr. Frank Cant third with Madame de Watteville.

In the amateur classes, Rev. A. C. Johnson was first for twenty-four, not large, but clean. Rev. A. Foster-Melliard second, rougher and less neat; here was a large bloom of Bessie Brown. Rev. H. A. Berners was third. The last named amateur, showing moderately, had no opposition in twelve and in six trebles. In twelve Teas Mr. Foster-Melliard was first with a box of blooms, most of which had already done duty at the Drill Hall, Westminster; Bridesmaid and Madame Cusin were fair blooms. Mr. Berners was second, having a lovely Ethel Brownlow, not large, but splendidly shaped and coloured. The large blooms of this variety never seem to me to come so good as the small ones. In six H.P.'s of a sort, Mr. F. Corder was first with La France, Mr. Berners second with Margaret Dickson, and Mr. Foster-Melliard third with Mrs. Paul. The latter were good specimens, and, *me judice*, should have been second, but the shapes of these two varieties are so very different that it is difficult to judge between them. In six Teas of a sort Mr. Johnson was first with good Madame de Watteville, and Mr. Berners second with Comtesse de Nadaillac.

In an extra class of twelve varieties Mr. F. Corder was first, showing A. K. Williams and S. M. Rodocanachi well, and Mr. Allen second, having a Charles Lefebvre which, without being anything extraordinary, had worthily the medal as the best amateur Rose.

Herbaceous flowers, decorations, fruit, and vegetables were well shown, but not judged by the time I had to leave. With the large van

of Mr. "Cutbush" on the ground, and our local nurseryman Mr. "Notcutt" showing in force, there may have seemed to an outsider, who did not know the names, an opportunity of judging between opposite systems of cultivation and treatment, but I do not think there was.—W. R. RAILLEM.

Bath, July 5th.

THE annual show held in connection with the Floral Fête and Band Committee took place on the above date, and though the usual fate of the Bath shows—a wet day—threatened in the early morning, later the weather proved bright and warm. The joint secretaryship of Messrs. Pearson and Jeffrey, aided by an influential committee, is a sufficient guarantee that every detail connected with the show was ably carried out.

The principal class open to nurserymen is for seventy-two distinct varieties, single trusses. Last year's winners were again successful on this occasion, Messrs. Alex. Dickson & Sons, Newtownards, co. Down, who staged in their well-known form the following varieties:—Etienne Levét, Suzanne M. Rodocanachi, Mildred Grant, Alfred Colomb, Tom Wood, Alice Lindsell, new (Dickson's), Ulrich Brunner, La France, Mrs. Ed. Mawley, Florence Pemberton, Mrs. Sharman Crawford, Madame Eugène Verdier, Mrs. W. J. Grant, Bessie Brown, Mrs. J. Laing, Mrs. Sandford, Marchioness of Dufferin, W. Laing, Her Majesty, Ulster, Souvenir de S. A. Prince, Louis Van Houtte, Hon. E. Gifford, Lady M. Beauclerk, Xavier Olibo, Heinrich Schultheis, Kaiserin Augusta Victoria, Janet Scott, Marie Verdier, Jeanie Dickson, Marquise Litta, Lady Downshire, Marie Baumann, White Lady, Prosper Langier, The Bride, Helen Keller, Madame G. Luizet, Horace Vernet, Maréchal Niel (fine), Bridesmaid, Killarney, Duke of Teck, Lady Caledon, Duchess of Bedford, Baroness Rothschild, Alice Graham, Triomphe de Caen, White Maman Cochet, Daisy, Lady Mary Fitzwilliam, A. K. Williams, Robert Scott, Duke of Wellington, Souvenir du President Carnot, Madame Cusin, Cleopatra, Madame Jules Grolez, Niphetos, Gladys Harkness, Alice Graham, Catherine Mermet, and Muriel Graham. Messrs. J. Townsend & Sons, Worcester, were second, and Messrs. G. Cooling, Bath, third.

For thirty-six varieties, three trusses of each, the same exhibitors occupied exactly similar positions, these classes making quite an exhibition in themselves. Messrs. Dickson & Sons were again first in the class for eighteen Tea or Noisettes, distinct, staging beautifully fresh blooms of Niphetos, Mrs. E. Mawley, Souvenir d'un Ami, Catherine Mermet, Souvenir d'Elise Vardon, The Bride, Muriel Grahame, Madame Cusin, Marie Van Houtte, Medea, Cleopatra, Anna Ollivier, Comtesse de Nadaillac, Rubens, Madame de Watteville, Souvenir de S. A. Prince, Comtesse Panisse, and Innocente Pirola. For thirty-six distinct, three trusses of each, and eighteen ditto, the classes were bracketed; and here Messrs. G. Prince and J. Mattock won in the first named, and Mr. A. A. Walters and Mr. J. Mattock in the smaller entry, all showing exceedingly well. Messrs. Dickson & Sons won with twelve single blooms of any Rose with Mildred Grant; twelve yellow, twelve crimson, and for six of any new Rose with Mrs. Ed. Mawley; Mr. G. Prince taking the first prize for twelve distinct Roses shown in vases, five blooms of each variety, also for twelve La France and for a single truss of Cloth of Gold.

Among amateur exhibitors such well-known names as Mr. A. Hill Gray, Mr. J. Hinton, Rev. R. Powley, Mr. T. Hobbs, and Mr. Sydney Smith were conspicuous, and their stands contained some remarkably fine blooms. Messrs. Dickson & Sons secured the National Society's silver medal for the best Tea or Noisette with their new Mrs. Edward Mawley, a most beautiful Rose; and with Mildred Grant they claimed the silver medal of the N.R.S. for the best Hybrid Tea. Garden Roses in eighteen varieties made a fine display, as also did single and Moss varieties, all the prizes being secured by Bath nurserymen, Messrs. Cooling and Walters.

Begonias and Strawberries are associated with the Rose show, but the former did not bring out such competition as is sometimes the case. Strawberries were shown mostly by local exhibitors, and were numerous and good, Royal Sovereign being the most freely staged. Classes for decorated tables, groups of plants and Roses, bouquets of Roses, as well as many other miscellaneous exhibits, were numerous contributed, all tending to make the show interesting to a large section of the flower-loving public.

Norwich, July 5th.

THIS show was held in the magnificent grounds of W. J. Birkbeck, Esq., which really looked, I could not help saying, as if they had been made on purpose. In the large sloping park-like field, with a beautiful view down the river and away to the woods on the other side of the valley, with clumps of fine trees so arranged as to hide all buildings and to show everything beautiful, the only fault seemed to be that the ground was rather too large, the tents being quite a distance apart. The day, after being very cold and threatening early, turned out fine and hot in the afternoon, and I have no doubt the show was a complete success, as the Norfolk and Norwich Horticultural Society know nothing of failures.

Exhibitors and Roses were alike few in number, and hardly up to the mark. In forty-eight Roses (open) Messrs. F. Cant & Co. were first, S. M. Rodocanachi and Mrs. John Laing being perhaps his best blooms. There was here a medium-sized bloom of Ulster. Mr. B. R. Cant was second, some of his blooms being smaller. Mrs. W. J. Grant and Mrs. E. Mawley (a fair bloom) were well shown here. In twelve new Roses (open) these positions were reversed. There was nothing of much interest in these two stands, but it was noticeable that the cool weather had suited Killarney, which was to be seen in several stands. In eighteen Teas (open) Mr. Frank Cant was first, with Bridesmaid as his best; and Mr. Foster-Melliar a pretty good second with a nice Cleopatra.

In the amateur classes, Mr. Foster-Melliar was first with thirty-six, his best Roses being Ulrich Brunner (medal H.P.), Mrs. John Laing (a day too young or it would have been the best), and a beautiful Mrs. Paul; Rev. A. L. Fellowes was second, and Miss Penrice third. This lady, who used to win everything in Roses twenty years ago, appeared in person to superintend her Roses, and very glad I was to see her taking so much interest and trouble in her Roses still. At the same time I could not but be sad at the cause of her presence, for her dear old broad-shouldered gardener, Mr. Morris, the hero of a hundred Rose fights, had passed away, I heard, last February. It was always a comfort to see him; he was always so cheery and imperturbable that it was impossible to be upset or vexed at any reverse in his presence. But I was not surprised, for he was much altered in appearance at the last Norwich Show, and said, when I wished him good-bye, that he would never see me again.

In the class for twenty-four, the first prize being a challenge cup presented by Miss Penrice, open only to Norfolk exhibitors, Mr. T. C. Blofeld was first, having a beautiful Innocente Pirola, which was a good second for the Tea medal, and Rev. A. L. Fellowes second. In twelve Mr. Blofeld was first. In another class of twelve Mr. Hammond of Eye showed well, having La France, Dupuy Jamain, and Comtesse de Ludre in capital condition. In twelve Teas Mr. Foster-Melliar was first, having a fine and very large bloom of Mrs. E. Mawley which gained the medal as best Tea, and a good Cleopatra. Mr. Fellowes was second, and Mr. Bunn third. In twelve H.P.'s of a sort Mr. Hammond was first with Ulrich Brunner, good; Mr. Fellowes second with Caroline Testout, and Mr. C. E. Bouchier third with Gabriel Luizet. In six ditto Mr. Foster-Melliar was first with La France, bad; Mrs. Ames Syde second with Ulrich Brunner, and Mr. Steward third with Mrs. Sharman Crawford.

Mr. Fellowes generally shows La France in twelve of a sort, and I asked him how it was he had not got them this year, as they had been good lately with me; and when he said he could not get them asked him how many plants he had of the variety. I fairly gasped at the answer, for he said he had twelve hundred large bushes of it in one bed. I thought of my twelve plants, from which I have already cut two first prizes, and one medal at Salisbury N.R.S., and found food for reflection.—W. R. RAILLEN.

Sutton, July 5th.

THE nineteenth annual show of the Sutton Amateur Rose Society was held in the Public Hall on the above date, and from a rosarian's point of view was a success. The entries numbered considerably over 100, and many flowers of exceptionally good quality were exhibited. The competition in the several classes varied considerably, as has been the case at practically all shows so far this season; but in some instances the quality ranged very closely. The arrangements were well carried out by Mr. F. W. Nightingale, the honorary secretary; but the judging, which was advertised to commence at eleven o'clock, was somewhat late; this, however, is a failing of many Rose shows.

The chief amateurs' class was for twenty-four distinct, single trusses, and the premier award was secured by Mr. E. M. Bethune, Denne Park, Horsham. The varieties included La France, Camille Bernardin, S. M. Rodocanachi, Mrs. J. Laing, Ulrich Brunner, Mrs. Sharman Crawford, A. K. Williams, Madame Gabriel Luizet, Comte Raimbaud, Caroline Testout, Duke of Fife, Grand Mogul, Marie Rady, Kaiserin Augusta Victoria, Marie Baumann, The Bride, Etienne Levet, Marquise Litta, Rosieriste Jacobs, Lady Arthur Hill, Capt. Hayward, Catherine Mermet, and Alf. Colomb. Mr. R. E. West, Reigate, was second; and Mr. A. Slaughter, Steyning, third.

In the amateurs' class for eight trebles the chief position was taken by Mr. E. M. Bethune, who staged Ulrich Brunner, Mrs. J. Laing, A. K. Williams, Caroline Testout, Catherine Mermet, Madame Gabriel Luizet, Mrs. Sharman Crawford, and La France. Mr. R. E. West was second, and Mr. A. Slaughter third. For twelve Teas or Noisettes, distinct, single trusses, there were three competitors, and Mr. E. M. Bethune was again first with Madame Cusin, The Bride, Innocente Pirola, Maman Cochet, Bridesmaid, Princess of Wales, François Dubriel, Souvenir de S. A. Prince, Francisca Kruger, Catherine Mermet, Medea, and Comtesse de Nadaillac. Mr. A. Slaughter was second, and Mr. R. E. West third.

The following four classes were open only to growers of less than 2000 plants, Mr. P. C. G. Burnand, Reigate, was first for twelve distinct, single trusses, with Marie Baumann, Caroline Testout, Duke of Fife, Mrs. J. Laing, Mrs. Sharman Crawford, Captain Hayward,

Margaret Dickson, S. M. Rodocanachi, A. K. Williams, Madame G. Luizet, Alf. Colomb, and La France. For six Roses, distinct, three blooms of each, Mr. P. Burnand was again first. The first prize for nine Teas and Noisettes was won by Mr. P. Burnand with Catherine Mermet, Elise Fugier, Comtesse de Nadaillac, Innocente Pirola, Cleopatra, Madame de Watteville, Madame Hoste, Souvenir d'un Ami, and Bridesmaid. For six blooms of any one Rose Mr. P. Burnand was first with Mrs. Sharman Crawford.

Five classes were allocated to growers of less than 1000 plants, and the leading position for nine distinct, single trusses, was annexed by Mr. G. W. Cook with Mrs. J. Laing, François Michelon, Marchioness of Londonderry, Duke of Fife, Mrs. Sharman Crawford, Duchesse de Morny, Ulrich Brunner, La France, and Marquise Litta. For six distinct, single trusses, Mr. E. Wilkins was first with Ulrich Brunner, Etienne Levet, Mrs. J. Laing, Mrs. W. J. Grant, Madame Abel Chateney, and Kaiserin Augusta Victoria. For four trebles, Mr. G. W. Cook, North Finchley, was first with Captain Hayward, La France, Marquise Litta, and Mrs. John Laing. Mr. E. Wilkins was second. In the class for six Teas and Noisettes, distinct, Mr. E. Wilkins was the only exhibitor, and received the second prize, as was he of six blooms of any one variety, for which he secured the first prize with Mrs. J. Laing.

Mr. E. M. Bethune took the chief prize for six blooms of a Hybrid Perpetual, and six of any other variety, with The Bride and Camille Bernardin. Mr. A. Slaughter was second, and Mr. R. E. West third. In the local class, for twelve distinct, single trusses, Mr. K. H. Gifford, Sutton, was first with small but fresh, well coloured flowers. Mr. G. V. A. Schofield, Sutton, came second with larger blooms that lacked quality. Mr. R. W. Miller was third. There were four competitors. Mr. R. Farden was first for six Teas or Noisettes with Maman Cochet, Louis Van Houtte, Caroline Kuster, Souvenir de S. A. Prince, Cleopatra, and Bridesmaid. Mr. G. V. A. Schofield, who was disqualified, secured the N.R.S. silver medal for the best Tea in the show with a beautiful bloom of The Bride.

Mr. G. V. A. Schofield, who secured the premier position in the local class for growers of less than 500 plants, took also the Alex. Clark challenge bowl and a silver medal. The nine blooms were François Michelon, Marie Baumann, Mrs. J. Laing, A. K. Williams, S. M. Rodocanachi, Ulrich Brunner, Prince Arthur, Maman Cochet, and Sultan of Zanzibar. Mr. Schofield now wins this cup outright. Mr. K. H. Gifford was a remarkably close second with clean flowers. Mr. R. W. Miller was a poor third.

The ladies' silver cup and a silver medal were offered with the first prize for six Roses distinct, and Mr. K. H. Gifford was placed first with Mrs. John Laing (superb), Capt. Hayward, Marquise Litta, Mrs. Sharman Crawford, Madame Gabriel Luizet, and Ulrich Brunner. These flowers were all excellent. Mr. G. V. A. Schofield was a poor second, and Mr. J. G. Detmar third. Capt. Hayward in the first prize stand received the N.R.S. silver medal as the best bloom, other than a Tea or Noisette, in the local classes. Mr. Gifford now becomes the owner of the ladies' silver bowl.

Mr. K. H. Gifford was first for six blooms of any Rose with grand Mrs. J. Laing; Mr. T. G. Detmar second, with Mrs. Sharman Crawford; and Mr. G. V. A. Schofield third, with Ulrich Brunner. In the classes confined to maiden growers there was not much competition, and the flowers lacked the finish that was observable in the majority of other stands. Mr. W. White, of Sutton, staged very creditably, and will probably come forward to a more prominent position in the future.

There were three competitors in the nurserymen's class for thirty-six distinct, single trusses, and Messrs. Harkness & Sons, Bedale, secured the premier place with a handsome stand. The varieties were Mrs. J. Laing, Magna Charta, Caroline Testout, Ulrich Brunner, Madame Eugène Verdier, La France of '89, Madame Montet, Marie Verdier, Her Majesty, S. M. Rodocanachi, Souvenir d'un Ami, Etienne Levet, J. S. Mill, Maréchal Niel, Capt. Hayward, Souvenir d'Elise Vardon, Grand Mogul, Mrs. W. J. Grant, Marie Baumann, Souvenir de S. A. Prince, Duke of Wellington, Kaiserin Augusta Victoria, Charles Lefebvre, Lady Mary Fitzwilliam, Mrs. Sharman Crawford, Fisher Holmes, Margaret Dickson, Duchesse de Morny, Alf. Colomb, La Fraicheur, Tom Hood, Madame Gabriel Luizet, The Bride, Horace Vernet, and Duke of Teck. Messrs. D. Prior & Son, Colchester, were second. The best blooms were Mrs. W. J. Grant, White Maman Cochet, Her Majesty, Fisher Holmes, Mrs. J. Laing, Madame de Watteville, and Madame Gabriel Luizet. Messrs. F. Cant & Co. were third.

For twenty-four distinct, single trusses, Messrs. F. Cant & Co. were first with Lady Mary Fitzwilliam, Captain Hayward, Mrs. J. Laing, Victor Hugo, Jeanie Dickson, Ulrich Brunner, Madame Gabriel Luizet, Duke of Fife, Tom Hood, Antoine Rivoire, Horace Vernet, Mrs. W. J. Grant, Alf. Colomb, Killarney, Etienne Levet, Souvenir de S. A. Prince, Marquise Litta, Bridesmaid, Françoise Louvat, Heinrich Schultheis, A. K. Williams, La Fraicheur, Exposition de Brie, and a new sport named Muriel—it is a charming variety of silvery rose colour. Messrs. Harkness & Son were second, and Messrs. D. Prior & Son third.

In the class for twelve Teas or Noisettes, distinct, there were only two exhibitors, and Messrs. D. Prior & Son took the lead. The box contained Maman Cochet, Souvenir d'Elise Vardon, Ernest Metz, Souvenir de S. A. Prince, Niphotos, Maréchal Niel, Innocente Pirola, Madame de Watteville, The Bride, Souvenir d'un Ami, White Maman Cochet, and Luciole. Messrs. F. Cant & Co. were second.

Harrow, July 10th.

THE annual show of the Harrow Horticultural Society was held in the grounds of The Croft, Greenhill, Harrow, and it must be described as a distinct advance upon its predecessors. The open, amateur, and local Rose classes were almost all keenly contested. It was a matter for regret, however, that in the latter section the flowers were mainly dumped down on to the moss, which itself was of bad colour. This is a defect that should be remedied as soon as possible. Sweet Peas, hardy flowers, and vegetables were all splendidly shown, while the table decorations were most artistic. Mr. Lewis Pawle again proved his skill as an organiser.

There were six stands in the class for thirty-six Roses, distinct, open to all, and Messrs. F. Cant & Co., Colchester, secured the premier award. The varieties were Duke of Teck, Mrs. Ed. Mawley, A. K. Williams, Muriel, Star of Waltham, M. Boudet, Helen Keller, John Stuart Mill, Marie Finger, Maman Cochet, Comtesse d'Oxford, Bessie Brown, Her Majesty, François Michelin, Cleopatra, Marquise Litta, Caroline Testout, Victor Hugo, Mrs. J. Laing, Etienne Levet, Countess of Caledon, Marie Baumann, Mrs. W. J. Grant, Madame Victor Verdier, Comtesse de Paris, Ellen Drew, Général Jacqueminot, Madame Hoste, Xavier Olibo, Madame Gabriel Luizet, Prince Arthur, White Lady, Duke of Edinburgh, Mrs. F. Cant, Dupuy Jamain, and Bridesmaid. Mr. B. R. Cant, Colchester, was an excellent second with Killarney, Etienne Levet, Bridesmaid, Madame Eugène Verdier, Madame de Watteville, Mrs. W. J. Grant, Victor Hugo, Cleopatra, Mrs. Ed. Mawley, La France, Gustave Piganeau, and Her Majesty as his best blooms; and Mr. G. Prince, Oxford, was third.

In the open class for twelve Teas and Noisettes, distinct, Mr. Geo. Prince was placed in the premier position with refined blooms of Comtesse de Nadaillac, Maman Cochet, Muriel Grahame, Bridesmaid, Catherine Mermet, The Bride, Souvenir d'un Ami, Innocente Pirola, Souvenir d'Elise Vardon, Madame Cusin, Souvenir de S. A. Prince, and Golden Gate. Mr. B. R. Cant was second with Madame de Watteville, Madame Cusin, Bridesmaid, Souvenir d'un Ami, The Bride, and Souvenir de S. A. Prince as his best. Messrs. F. Cant & Co. were third.

The display of garden Roses was one of the finest features of the exhibition. There were five entries in the open class for twelve distinct, and they were all creditable. Mr. Chas. Turner, Slough, was a splendid first with beautiful bunches of Gustave Regis, Marquise de Salisbury, Wm. A. Richardson, Rosa Mundi, Madame Charles, Madame Faloot, Moss White Bath, Madame Pernet Ducher, Madame Chedane Guinnoisseau, Lanrette Messimy, Crimson Rambler, and Camoens. Messrs. F. Cant & Co. were second, and Mr. Geo. Prince third.

Mr. C. J. Salter, gardener to Mrs. Haywood, Reigate, was first in the class for twenty-four Roses, distinct. The flowers were of good average quality, and comprised Gustave Piganeau, Comte Raimbaud, Her Majesty, Ulrich Brunner, Marchioness of Londonderry, Duke of Teck, Grand Mogul, E. Y. Teas, Mrs. J. Laing, Louis Van Houtte, Countess of Caledon, Marie Baumann, Mrs. Sharman Crawford, Alfred Colomb, Madame Gabriel Luizet, François Michelin, Abel Carrière, S. M. Rodocanachi, Duke of Wellington, Merveille de Lyon, Duke of Wellington, Horace Vernet, Marquise Litta, and Marie Rady. Mr. G. W. Cook, Finchley, and Mr. E. Mawley, Berkhamsted, were placed equal second. Mr. Cook's best blooms were Mrs. J. Laing, Marquise Litta, Madame Gabriel Luizet, Comtesse de Nadaillac, White Maman Cochet, and Mrs. W. J. Grant. Mr. Mawley showed in excellent colour A. K. Williams, La Fraicheur, Ulrich Brunner, Caroline Testout, and Marquise Litta. There were six competitors in this class, which was open to all amateurs.

The principal members' class was for eighteen Roses, distinct, and the chief award was secured by J. R. Cater, Esq., with Victor Hugo, Caroline Testout, Marie Baumann, Mrs. J. Laing, Clio, Madame C. Ramey, The Bride, A. K. Williams, La Rivière, Mrs. Sharman Crawford, Ulrich Brunner, François Fontaine, Jeanie Dickson, Rosieriste Jacobs, Madame Wagram, Madame Eugène Verdier, Général Jacqueminot, and Clara Watson. Mr. W. Head, gardener to G. A. Davis, Esq., was second.

Mr. W. T. Norman, gardener to Mrs. Charles, was first with a moderately good set of twelve; Mr. D. Lawrence was second; and the Rev. E. C. E. Owen was third. Mr. Lewis D. Pawle was an easy first for six distinct with La France, S. M. Rodocanachi, Marquise Litta, Souvenir de Madame Eugène Verdier, Abel Carrière, and Mrs. W. J. Grant. With the exception of Abel Carrière this box was most excellent. E. W. Howson, Esq., was second; and Capt. Johnson third.

Three medals were offered for premier blooms, and they were awarded as follows: Mr. Chas. Turner for the best Rose in the show with Mrs. J. Laing; Mr. C. J. Salter for the best Rose in the amateurs' section with Mrs. John Laing; and Mr. L. D. Pawle for the best Rose in the local classes with La France.

The non-competitive exhibits were most interesting. Messrs. Paul and Son, Cheshunt, sent some splendid bunches of hardy flowers, including the best of those at present in flower. Messrs. Cntbush and Son, Highgate, contributed Carnations in good form, with flowering shrubs. Messrs. Barr & Sons were represented by hardy flowers in good variety; while Messrs. Wm. Paul & Son showed cut Roses in boxes and baskets.

Maidstone.

ON the last day of June the Maidstone Rose Club held its annual show in the grounds of Foley House, the residence of J. Arkcoll, Esq., the interest of the show being enhanced through the above gentleman allowing visitors to stroll round his gardens and grounds. The quantity and quality of the Roses were well up to the average, and the prizes were fairly evenly distributed among Kentish growers. Mr. R. E. West, Reigate, was a very successful exhibitor, and in the class for twenty-four blooms, twelve H.P.'s and twelve Teas, he won the Mayor's cup with a fine stand of flowers. Mr. West also came first in the class for twenty-four distinct blooms, one truss of each, followed by Colonel Pitt. In the class for twelve Teas and Noisettes the order was changed, the Rev. F. R. Burnside gaining premier honours with a good stand, Colonel Pitt second, and Mr. R. E. West third. For a stand of eight varieties, three trusses of each, Mr. R. E. West was first and Colonel Pitt second.

The Rev. H. B. Biron, Lympne, distinguished himself in the section confined to growers of less than 1000 plants, winning in the class for twelve distinct blooms. Mr. H. Foster was second, and Mr. Freeman third. Mr. J. Wakeley had the best six Teas, followed by Rev. H. B. Biron, and Mr. White. For four trebles Rev. H. B. Biron was first, Mr. J. Wakeley second, and Mr. H. Foster third. Amongst the growers of less than 300 plants, Messrs. H. Monckton, H. T. Drake, and T. Butler were the chief prizewinners. Mr. R. E. West won the bronze medal for the best H.P. with Mrs. John Laing, and the silver medal for the best Tea or Noisette went to the Rev. F. R. Burnside.

Messrs. G. Bunyard & Co. partly filled a small marquee with a beautiful display of plants and flowers, which were much admired. Some prettily arranged table decorations of Roses added to the interest of the show.

Horticultural Shows.

Hanley Floral Fête, July 4th and 5th.

THE large number of officials who were busily engaged from an early hour at Public Park on Wednesday morning anxiously discussed the prospects of the weather. The rain of Tuesday had done no more harm than to soften the soil and refresh the vegetation. The show was an undoubted success. There might not have been the aggregate in some of the more important classes which created such a sensation last year, but the quality shown was everywhere beyond reproach. It is clear that the exhibition is recognised by the greatest gardeners and growers as one of the few which must not be ignored. The exhibits in the group of plants again formed a feature. Mr. Cypher of Cheltenham, it will perhaps be called to mind, last year just failed in obtaining the highest award in this class, chief distinction being then given to Mr. Blair, the Duke of Sutherland's experienced head gardener. From the character of the display which the Cheltenham grower exhibited this year, it was apparent that he had made up his mind to do his utmost to play second to no one. It was a pity, therefore, that owing to other calls on his time Mr. Blair had found it impossible to devote the necessary hours to prepare a satisfactory group. Had he done so there would have been a struggle of giants. The Cheltenham group this year was superb, and would have repaid a visit to the show, even were it the only exhibit. Mr. Vause of Leamington was also responsible for a group about which much might be written, and perhaps ought to be written. The Cheltenham and Leamington growers vie with each other in striving to produce the most bewitchingly artistic effect. Miss Wright of Oswestry, the other exhibitor in the class, had a most effective display, and her group comprised some valuable flowering and foliage plants.

Visitors this year observed that the responsible officials had an eye to effect. The groupings all faced one way instead of being arranged in a square, as heretofore. Mr. W. Thompson, of Walton Grange, once again sent a display of Orchids. The exhibition was by far the best which has been seen in the district. Another exhibitor in Orchids was Mr. Cypher. Other exhibits worth particular attention in this tent were the Begonias in pots, shown by Messrs. John Peed & Son, of West Norwood. This display showed the development which has taken place in the growth of this plant within the past few years. The blooms are not only much larger and finer, but the character of the flower is altogether changed. Quite a strong feature was an exhibition of Ferns by Messrs. W. & J. Birkenhead. No fewer than 500 species and varieties were displayed. The delicate lacing was in many instances apparent, and the gold and silver specimens were very noticeable. Fruits and vegetables were also praiseworthy. We append a list of the prizewinners as given in the "Staffs Sentinel":—

For a group of plants arranged for effect.—First, Mr. J. Cypher; Cheltenham; second, Mr. W. Vause, Leamington Spa; third, Miss Wright, Halston Hall, Oswestry. Group of Orchids.—First, Mr. W. Thompson, Stone; second, Mr. J. Cypher, Cheltenham. Group of Malmaison and other Carnations in pots.—First, Mr. P. Blair, Trentham; second, Mr. J. H. Goodacre. Six plants in flower, distinct;

six fine foliage plants, distinct.—First, Mr. J. Cypher, Cheltenham; second, Mr. W. Vause, Leamington Spa. Eight exotic plants, distinct. First, Mr. W. Thompson, Stone; second, Mr. J. Cypher, Cheltenham. Six Palms, distinct.—First, Mr. J. Cypher, Cheltenham; second, Mr. W. Vause, Leamington Spa. Twelve Caladiums.—First, Mr. R. G. Howson; second, Mr. J. Maddock, Alsager; third, Mr. P. Blair, Trentham Gardens.

In the classes for forty-eight distinct Roses, thirty-six distinct, three blooms of each, twenty-four distinct, twelve distinct, twelve distinct Teas, three blooms of each, and for twelve Hybrid Perpetual, one variety, the premier award was in each case taken by Messrs. A. Dickson & Sons, Newtownards. For the best trade exhibit of plants or floral arrangement.—First, Messrs. J. Hill & Son, London; second, Messrs. Barr & Sons, Covent Garden. Collection of hardy flowers.—First, Mr. I. C. Waterhouse, Prestbury. Best arranged basket of flowers.—First, Messrs. Jenkinson & Son, Newcastle; second, Mr. John Kirk, Heaton Chapel; third, Mr. W. Vause, Leamington Spa. Best hand bouquet.—First, Messrs. Jenkinson & Son, Newcastle; second, Mr. J. Kirk, Heaton Chapel; third, Mr. W. Vause, Leamington Spa. Best ball bouquet and bridal bouquet.—First, Messrs. Jenkinson & Son, Newcastle; second, Mr. John Kirk, Heaton Chapel; third, Mr. W. Vause, Leamington Spa. Stand of cut flowers for table decoration.—First, Messrs. Jenkinson & Son, Newcastle; second, Messrs. Hodgkins & Co., West Didsbury; third, Mr. John Kirk, Heaton Chapel. Collection of twenty-four varieties of Sweet Peas.—First, Mr. P. Blair, Trentham; second, Messrs. Hinton Bros., Warwick.

For a collection of nine dishes of fruit, to include black and white Grapes.—First, the Right Hon. Lady Beaumont, York; second, Lord Bagot, Rugeley; third, Earl of Carnarvon, Burton; fourth, Sir J. W. Pease, M.P., Guisborough. Collection of six dishes, Pines excluded.—First, Sir J. W. Pease, Guisborough; second, Earl of Harrington, Derby; third, Lord Bagot, Rugeley. Four bunches of Grapes.—First, the Right Hon. Lady Beaumont, York; second, Mr. T. Bolton, Oakamoor; third, Earl of Carnarvon, Burton. Two bunches Black Hamburg Grapes.—First, the Right Hon. Lady Beaumont; second, Lord Bagot, Rugeley; third, Earl of Harrington, Derby. Two bunches white Muscat Grapes.—First, Sir J. W. Pease, M.P., Guisborough; second, Lord Bagot, Rugeley; third, Right Hon. Lady Beaumont. Two bunches Grapes, white.—First, the Right Hon. Lady Beaumont; second, Mr. A. C. Waterhouse, Prestbury; third, Mr. T. Bolton, Oakamoor. Six Peaches.—First, Mr. P. Blair, Trentham; second, Lord Bagot, Rugeley; third, the Right Hon. Lady Beaumont. Six Nectarines.—First, the Earl of Carnarvon, Burton; second, the Right Hon. Lady Beaumont; third, Mr. P. Blair, Trentham. Two dishes Peaches, distinct varieties.—First, Mr. P. Blair, Trentham; second, the Right Hon. Lady Beaumont, York; third, Lord Bagot, Rugeley. Two dishes Nectarines, distinct varieties.—First, the Earl of Carnarvon, Burton; second, Lord Bagot, Rugeley; third, the Right Hon. Lady Beaumont.

Royal Horticultural Society of Ireland, July 5th.

ON Thursday, the 5th inst., the annual Rose tourney was held in Merrion Square. The following gentlemen officiated as judges:—On plants and fruit, Mr. P. Harper, Montrose, Donnybrook; Mr. D. Watt, Viceregal Gardens; and Mr. W. Dick. On cut flowers, Mr. A. Black, The Gardens, Carton; Mr. F. Bedford, The Gardens, Straffan; and Mr. F. W. Burbidge, M.A. Among the Roses the contest was keen, but the honours went to Mr. D. Colohan, gardener to F. Millar, Esq., who swept the board in the premier classes with a stand of thirty-six blooms. The Carnations, too, were very fine, Mr. Mitchison's collection being the best. Among the exotics Mr. J. Byrne, gardener to Mr. George Drimmie, came first with *Oncidium sphacelatum*. Fruit and vegetables were well up to the usual standard, but there were no Grapes shown.

For the stand of thirty-six Roses, and the challenge plate given by Messrs. Alexander Dickson & Sons, Newtownards, F. A. Millar, Esq., Windsor House, Monkstown, ranked first. The following blooms were superb: Captain Hayward, Catherine Mermet, Duke of Wellington, La France, Margaret Dickson, Prince Camille de Rohan, John Stuart Mill, Ellen Drew, Ulrich Brunner, and Charles Darwin. The second place was taken by Ernest Bewley, Esq., Cowper Road, Rathmines, with Général Jacqueminot, Maman Cochet, Caroline Testout, and Victor Hngo. In the third place came F. Tattersall, Esq., Crookleigh, with Bessie Brown, Marquise Litta, Horace Vernet, and Gustave Piganeau. For a stand of Teas and Noisettes and the West challenge cup, Mr. Colohan again staged sixteen excellent blooms, the best being Catherine Mermet, Lady Castlereagh, Bride, and Souvenir de la Malmaison; Mr. E. Bewley coming second with Innocente Pirola, Madame Hoste, and Mrs. Edward Mawley. In a stand for twenty-four, Mr. Colohan was again awarded premier place, and Mr. F. W. Tattersall second.

In the class for twelve distinct varieties Mr. S. Davis staged an excellent box for Mrs. Goodbody, Obelisk Park, Blackrock, in which the following were the best blooms. Margaret Dickson and Général Jacqueminot; R. J. Harris, Esq., Saintbury, Killiney, coming second;

and Major Burrowes third. For twelve Hybrid Teas Mr. Ernest Bewley won the first prize, and Mr. J. Campbell Hall the second. For a stand of dozen Teas and Noisettes Mr. Harvey staged an easy first for E. D'Olier, Esq., Knocklinn, Bray. The box contained some excellent examples of Maman Cochet, Medea, Anna Ollivier, Rubens, Madame Hoste, and Niphetos. Mr. Colohan was second. Among the class for new varieties F. Tattersall, Esq., came in first with some choice blooms, but Ulster was far short of exhibition standard, and Lord Ashtown came second. Mrs. Goodbody was first with Captain Hayward in the class for dark varieties.

In the baskets of Roses and foliage Mr. D. O'Leary took the premier honours for J. H. Dudgeon, Esq., Merville, Booterstown. Zonals were capably shown, also Pansies, Violas, and Begonias, the following being easy firsts, Mrs. A. J. Kelly, Clifford Lloyd, Esq., Lord Ashbrook, R. J. Harris, Esq., and Lord Carew respectively; whilst hardy flowers were well represented. The winner of the Domville cup was not declared, and for the Kelway's medals the winner was Mrs. Burrowes, Dornden, Booterstown (gardener, Mr. S. Carroll), Lord Ashtown being second.

The table plants prize was easily captured by Mr. Rigg, gardener to Lord Cloncurry, Lyons, Hazlehead. For a group of foliage and flowering plants, Mr. T. Byrne, gardener to G. Drimmie, Esq., staged a very choice group, comprising in the main Orchids, and also Zonals, Crotons, Palms, and Ferns, which achieved an easy first. He likewise took first prize in the specimen Orchid. Mrs. Burrowes staged a fine plant of *Crassula coccinea*. Carnations were very well shown, the premier honours in all the classes being obtained by Mr. Mitchison, gardener to the Hon. Colonel Crichton, Ballymore Eustace, Mullaboden, co. Kildare. Second places in these latter classes were taken by F. W. Tattersall, Esq., and Lord Carew. Gloxinias were well shown by G. Drimmie, Esq., and Mrs. A. J. Kelly, who were first and second respectively. Fruit and vegetables appeared very good, especially Strawberries, Peaches, and Cherries, also Melons.

Messrs. Clibran, Altrincham, had a fine stand of hardy flowers, though the Pæonies were rather too full blown. Duke of York, a single with golden stamens, was, however, very good, whilst the herbaceous collection was charming, consisting of Irises, Campanulas, Grasses, and a pretty bunch of *Gillenia trifoliata*. Messrs. Alex. Dickson, Newtownards, staged Roses in their usual perfect style. They also had a nice collection of hardy plants. Mr. Hugh Dickson of Belmont, Belfast, displayed a fine collection of Roses, and also a new seedling, Dorothy, raised by themselves. The colour is pale saffron yellow suffused with pink, and very heavily marked on the outer petals with pink.—A. O'NEILL.

Bootle.

IN a busy and go-ahead town such as Bootle, one would have almost fancied little time could have been devoted to horticulture, but, thanks to several local enthusiasts, there is sufficient to provide a handsome show. The Derby Park, in which the show was held for the second time, was eulogised by the Mayor, Alderman Morton, and Alderman McMurray.

The exhibits were arranged in a large marquee. There were three choice groups of plants, the winner proving to be Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, Wavertree; Mr. H. Ogden was second, and Mr. John Thomas third. In stove and greenhouse plants Mr. Bracegirdle was in excellent form, his *Bougainvillea Sanderiana* looking well. In the class for six foliage plants, a fine *Alocasia Veitchii* and *Asparagus* proved a feature. Mr. Bracegirdle also took the lead for a specimen *Fuchsia*, four Ferns distinct, one Tree Fern, six Crotons, and three Palms. Mr. C. A. Mather was very successful, winning with four *Coleus*, six double Zonal *Pelargoniums*, and a specimen Fern. The British Ferns from Mr. Ogden, and tuberous Begonias from Mr. C. A. Evans, were good.

B. Kennedy, Esq., of Formby, a well-known Rose grower, showed blooms of fine form and highly coloured. For twelve the varieties were White Lady, Mrs. W. J. Grant, Kaiserin Augusta Victoria, Marquise Litta (2), Madame Cusin, Mrs. J. Laing, Cleopatra, Mrs. Sharman Crawford, Innocente Pirola, Caroline Testout, La France. This set also won Mr. Kennedy the Mayor's special prize of 2 guineas. C. Hacking, Esq., Formby, was a good second. For six cut Roses and six Teas, distinct, Mr. Kennedy showed remarkably good blooms.

Strawberries were particularly good, the prizewinners being Messrs. Bracegirdle, H. Guy, and W. Mackarell. Vegetables were excellent, the last named taking the chief prizes. A special feature was the prizes allotted for artisans, and embracing the six wards in the town. The response was most encouraging.

The trade exhibits were of a high standard, the Crotons from Messrs. R. P. Ker & Sons, Aigburth, Sweet and culinary Peas from Mr. H. Middlehurst, Liverpool, floral decorations from Mr. J. Matthews, Bootle, and grand Malmaison Carnations from Mr. C. A. Young, Floral Nurseries, West Derby, came in for a well-deserved share of admiration. It only remains to be said that Mr. J. S. Tamilty and Mr. J. J. Ogle, the hon. secretaries, carried out the many arrangements most admirably.



• All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately, to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *noms de plume* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Variegated Indiarubber Plant (*Suffolk*).—The form known as *Ficus elastica foliis aureo-marginatis*, the best of variegated-leaved Indiarubber Plants, is not materially more difficult to grow than the species. It succeeds admirably in a cool stove or warm greenhouse, and when the leaves are fully coloured, as in autumn, is an effective plant.

Juneberry and Mayberry (*J. C. S.*).—The Juneberry is *Amelanchier canadensis* var. *oblongifolia*, the fruits of which are edible, the pome being purple, and sometimes called the Grape Pear. It is chiefly grown for its profusion of white flowers in early spring and rich autumnal foliage. It does well in ordinary soil. Mayberry was raised by Luther Burbank of California from seeds of *Rubus microphyllus* crossed with the Cuthbert Raspberry. It grows as a bush, and has not proved of substantial value.

Tomato Leaves Diseased (*T. W.*).—The leaves are infested by *Cladosporium fulvum* or *lycopersici*, the best cure for which is to maintain a rather light and dry temperature and atmosphere, closing the house on fine days, or nearly so, so as to run up to 100° or more. This with free ventilation and a gentle warmth in the hot-water pipes so as to maintain a circulation of air is the best safeguard against attack. Dusting the foliage by means of the Malbec bellows or similar apparatus with anti-blight powder has been found useful.

Melon Leaves Rusted (*Dianthus*).—The leaves are attacked by a mite which causes the rusted condition of the leaves, and is similar to that infesting Gloxinias and Begonias. The leaves in a similar condition are beyond remedy—indeed, the pest is very difficult to eradicate. The best remedies are spraying with tobacco juice, diluted with twelve parts of water; or nicotine liquid as used for vapourising, diluting this with about a hundred parts of water. The spraying should be done frequently. Fumigating or vapourising would be of service.

Logan Berry (*J. C. S.*).—The Logan Berry originated in the garden of Judge Logan at Santa Cruz from self-sown seeds, and is supposed to be a cross between the Red Antwerp Raspberry and the Aughinbraugh Blackberry. It requires moist, free, generous soil and a warm position, also to be generally treated like a Raspberry, and when of the true stock bears freely. There are, however, several forms, due to raising from seed, the plants not coming true from that source, and such are frequently unreliable. *Aspidistra elatior*, the species much grown for decorative purposes, is a native of Japan, and was introduced in 1838.

Thrips on Peach Trees (*Grateful*).—As some of the fruit is ripe and ripening, the only safe course is to fumigate, though this, if excessive, will damage the young foliage, and may not kill all the thrips. It is desirable therefore, to repeat the fumigation or vaporisation with XL All liquid on two or three consecutive evenings, and at intervals of three or four days, taking care not to give an overdose. You may shorten the laterals now to one bud or leaf, but the growths made will not be of much use for bearing another season. This, we presume, is the object; the wood that should produce fruit next year being unsatisfactory from the attack by the thrips. The wood that has borne fruit this season and is not required for extension should be cut out to the successional shoot at the base, which will admit of the syringing to be resorted to as soon as the fruit is gathered being more effective against the thrips. The laterals may be allowed to make a little growth in order to utilise any excess of sap, and thus prevent the starting of the principal buds, otherwise they should be pinched to one leaf as fresh growth is made.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*T. A. G.*).—1, *Clerodendron fallax*; 2, *Mimulus (Diplacus) glutinosus*; 3, *Lilium martagon*; 4, *Sidalcea candida*; 5, probably *Geranium pratense album*, no flowers open; 6, *Sedum acre*. (*T. W. S.*).—1, *Rhus cotinus*; 2, *Lythrum salicaria*; 3, *Geranium sanguineum*; 4, *Funkia ovata*. (*C. F.*).—1, *Malva moschata alba*; 2, *Anthericum variegatum*; 3, *Ophiopogon jaburan variegatum*; 4, *Lychnis chalcidonica*; 5, *Dictamnus Fraxinella*. (*R. B. J.*).—1, *Ceanothus azureus*; 2, *Antennaria tomentosa*; 3, *Polemonium caeruleum variegatum*; 4, *Inula Helenium*; 5, *Epilobium angustifolium*; 6, *Bocconia cordata*.

Covent Garden Market.—July 11th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.				
Apples, Tasmanian... ..	8	0 to 18	0	Grapes, black	1	0 to 3	0		
Apricots, box	0	8	1	8	Lemons, case	10	0	30	0
Cherries, $\frac{1}{2}$ bushel	5	0	10	0	Melons, house, each ...	1	0	2	0
„ $\frac{1}{4}$ bushel	3	0	6	0	Oranges, case	10	0	25	0
„ Cooking, per sieve ...	5	0	6	0	Pines, St. Michael's, each	1	0	6	0
„ Dutch Duke, $\frac{1}{2}$ bshl	4	6	5	6	Raspberries	6	0	9	0
Currants, Black, per lb....	0	0	0	3	Strawberries,bskt 4 to 6lb.	1	3	2	0
„ Red, per sieve... ..	4	0	5	0	„ peck	4	6	6	0
Figs, green, doz.	1	6	3	0	„ home grown, doz.	8	0	12	0
Gooseberries, $\frac{1}{2}$ bushel ...	1	3	1	9					

Average Wholesale Prices.—Vegetables.

	s.	d.	s.	d.		s.	d.	s.	d.		
Artichokes, green, doz. ...	1	6	to	2	0	Mushrooms, lb. ...	0	3	to	0	6
Beaus, Long Pods ...	2	0	3	0	Mustard and Cress, punnet	0	2	0	0		
„ Jersey, lb.. ...	0	6	0	9	Onions, bag, about 1 cwt.	5	6	6	6		
Beet, Red, doz....	0	6	1	6	„ Egyptian, per bag	4	0	0	0		
Cabbages, tally ...	3	0	5	0	Parsley, doz. bunches ...	2	0	4	0		
Carrots, new, bunch ...	0	3	0	6	Peas, English, per bushel	3	0	5	0		
Cauliflowers, spring, per dozen ...	3	0	4	0	Potatoes, cwt. ...	5	0	10	0		
Celery, bundle ...	1	0	1	9	„ new Jersey, cwt.	10	0	12	0		
Cucumbers, doz. ...	2	0	4	0	„ Teneriffe, cwt....	12	0	14	0		
Endive, doz. ...	1	6	2	0	Radishes, long, doz. ...	0	6	0	0		
Herbs, bunch ...	0	2	0	0	„ round, doz. ...	1	0	0	0		
Leeks, bunch ...	0	8	0	0	Shallots, lb. ...	0	4	0	0		
Lettuce, doz. ...	0	6	0	0	Spinach, bushel ...	2	0	3	0		
„ Cos, score, from ...	0	6	2	0	Tomatoes, English, doz. lb.	3	0	5	0		
Mint, green, doz. bunches	2	0	0	0	Turnips, new ...	0	4	0	8		
					Vegetable Marrows, doz....	4	0	6	0		

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Arums	2 0	to 3 0	Odontoglossums	3 0	to 7 6
Asparagus, Fern, bunch...	2 0	2 6	Pelargoniums, doz. bnchs	4 0	6 0
Carnations, 12 blooms ...	1 0	2 0	Pæonies	12 0	0 0
Cattleyas, per doz.	12 0	18 0	Pyrethrum, white, doz.		
Eucharis, doz.	4 0	8 0	bunches... ..	2 0	3 0
Gardenias, doz.	2 0	3 0	„ coloured, doz. bnchs	1 6	2 0
Geranium, scarlet, doz.			Roses (indoor), doz....	3 0	4 0
bnchs.	6 0	9 0	„ Red, doz....	1 0	2 0
Lilium lancifolium album	3 0	4 0	„ Safrano, doz	1 6	2 6
„ rubrum	3 0	4 0	„ Tea, white, doz. ...	2 0	3 0
Lily of the Valley, 12 bun.	8 0	18 0	„ Yellow, doz. (Perles)	2 0	3 0
Maidenhair Fern, dozen			„ Maréchal Niel, doz.	6 0	12 0
bunches... ..	4 0	6 0	„ English:—		
Marguerites, doz. bnchs.	2 0	4 0	„ La France, doz. ...	2 0	3 0
„ Yellow doz. bnchs.	2 0	4 0	„ Mermets, doz.	3 0	8 0
Mignonette, doz. bunches	2 0	4 0	Smilax, bunch	4 0	6 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.				
Acacias, per doz. ...	12	0	to 24	0	<i>Ficus elastica</i> , each ...	1	6	to 7	6
Arbor Vitæ, var., doz. ...	6	0	36	0	Foliage plants, var., each ...	1	0	5	0
Aspidistra, doz. ...	18	0	36	0	Genistas, per doz. ...	8	0	15	0
Aspidistra, specimen ...	15	0	20	0	Geraniums, scarlet, doz. ...	6	0	10	0
Azaleas, various, each ...	2	6	5	0	„ pink, doz. ...	8	0	10	0
Boronias, doz. ...	20	0	24	0	Hydrangeas, white, each ...	2	6	5	0
Orotons, doz. ...	18	0	30	0	„ pink, doz. ...	12	0	15	0
Dracæna, var., doz. ...	12	0	30	0	Lycopodiums, doz. ...	3	0	6	0
Dracæna viridis, doz. ...	9	0	18	0	Marguerite Daisy, doz. ...	8	0	10	0
Erica various, doz. ...	8	0	18	0	Mignonette, doz. ...	8	0	12	0
Euonymus, var., doz. ...	6	0	18	0	Myrtles, doz. ...	6	0	9	0
Evergreens, var., doz. ...	4	0	18	0	Palms, in var., each ...	1	0	15	0
Ferns, var., doz. ...	4	0	18	0	„ specimens ...	21	0	63	0
„ small, 100 ...	4	0	8	0	Spiræas, per doz. ...	8	0	12	0

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Journal of Horticulture.

THURSDAY, JULY 19, 1900.

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Colouring Muscats.



THE season has now arrived when the main crop of Muscats have reached that stage when they should begin to lay on the coveted amber tint. The weather has so far been singularly unfavourable for bringing out good colour in white Grapes, and we must expect to see many "green" samples on the show boards for some time to come. There are two cardinal points in Muscat culture which must receive due attention if perfect colour is to be secured; one is to train the laterals thinly, so as to leave room for light and air to circulate freely between the leaves; the other to keep the roots in an active condition. If the laterals on all Muscat Vines were trained 15 inches apart we should, I think, see far fewer green samples at our shows, as the subdued light which then plays on the berries from start to finish gives them a firm skin, which under favourable conditions in other respects colours evenly all over, and the berries have a beautiful transparent colour when ripe. Many growers, however, have to deal with Vines on which the laterals are too close together, and for various reasons are unable to thin them as freely as they would like, and in order to get a few bunches advanced in colour for special events, they resort to the practice of tying back the leaves so as to expose the Grapes to full sunshine. This practice is, perhaps, the best which can be followed under the circumstances, but the berries under such conditions never become so transparent, or so evenly coloured, as when allowed to ripen gradually under a thin canopy of foliage, and the front part of the berries often has a dull cloudy appearance. When this tying back of the foliage is practised it ought to be done gradually, or some of the berries will scald, and should hot weather suddenly set in it is sometimes advisable to let all the leaves drop back into their natural position.

In regard to the second essential condition—viz., keeping the roots in an active state, due attention to the border must of course be given in winter, and when necessary removing some of the surface soil, lifting the roots and relaying them in fresh compost. With such attention plenty of young active roots should be formed during the growing season, which only need feeding with suitable stimulants to maintain them in the fullest activity. When the Vines are started I like to dress the border with bonemeal at the rate of 6 ozs. per square yard, and as soon as the Grapes are thinned apply Thomson's Vine manure, this to be pointed in with a fork, and covered with a 3-inch

layer of fresh horse manure or partially decayed cow manure. Should the border at that time be in the least dry it ought to be thoroughly moistened with water of the same temperature as that of the house. It is an easy matter to overwater Muscats, but from the time of thinning till the Grapes are ripe the border ought to be examined periodically, and watered when necessary, occasionally giving liquid manure. Such attentions should keep the roots in full activity till the Grapes are ripe. When colouring commences a dressing of guano at the rate of 4 ozs. per square yard is excellent, hastening the colouring process and bringing the berries up to their fullest size. All laterals carrying a large bunch should be encouraged by allowing one of the sub-laterals to grow freely.

The regulation of ventilation and atmospheric moisture also play an important part in helping to secure "golden berries." I am convinced that many cultivators are in too great a hurry to commence leaving on continually the time-honoured "chink" of air, and also to lessen the supply of moisture, with the result that berries do not swell to their proper size, or colour so quickly as they should. The closing of the house with plenty of moisture early in the afternoon ought to be continued till the berries show signs of colour over every part, then the ventilation must be gradually reduced as the sun declines, and a somewhat drier atmosphere maintained. Enough moisture should, however, be distributed to keep the foliage fresh and healthy, or how can one expect well-coloured Grapes when the leaves are scolded or infested with red spider, though maintaining an arid atmosphere? On the other hand it must be borne in mind that a damp, cold atmosphere often causes the berries to become badly spotted; this is because too little fire heat is given, rather than because the moisture distributed has been excessive. The Muscat in all stages of growth is a heat-loving Vine, and to produce good Muscat of Alexandria Grapes much more fire heat is necessary than black Grapes will endure with impunity.

During the ripening period a night temperature of from 70° to 75° should be maintained, a little heat be kept constantly in the hot-water pipes throughout the day during dull weather; and during the afternoon of such days when one can rest assured that sunshine will not burst through the clouds, the pipes may safely be made quite hot, and a little air left in the top of the house. It is surprising how well Muscats may be coloured even in dull weather when this afternoon heating of the pipes is practised. I once saw a wonderful transformation brought about in the colour of Muscats growing in a garden formed for them by practising the above plan for a fortnight, whenever the weather favoured it.

When the shoots are trained at a good distance from the glass Muscats do not require so much air as many people imagine. The ventilators should be slightly opened early in the morning, and the supply of air gradually increased as the sun gains power, and after the hottest part of the day is passed the air ought to be reduced by degrees so as to maintain a comparatively high yet never rising temperature. Should the sun burst out brightly after the air has been reduced it may sometimes be necessary to increase the ventilation for a time.—H. D.

In the Land of Fruit.

Crops Both Scarce and Abundant.

If anyone travelling on the railway which intersects the county of Kent will take the trouble to peep into the goods yards as he passes, large piles of round baskets will be seen heaped up ready for some special use. Or if you take the road, drays laden with the same kind of baskets will be met, and piles of them may be observed built up in the corners of orchards and fruit plantations. A stranger might wonder whence they all came, where is their destination, and what they are to be filled with, but everyone who is at all acquainted with the district and its important industry knows that the harvest of the fruit has commenced, and the delicious commodity is being transferred from the sunny fields of Kent to the great metropolis, and the centres of industry and population farther north. Fruit growers, pickers, salesmen, and railwaymen are among those who realise that the busy season is again here, and the abundance or scarcity of crops with the all-important question of prices are matters of general discussion.

Gooseberries.

Green Gooseberries are the first crop to claim the attention of the pickers, and for some weeks past the women have been busy filling the round baskets with berries so that London can enjoy its Gooseberry tart. Everybody may have their fill this season, for Gooseberries are a very heavy crop, bushes are laden with fruit, and when the green fruit season is over there will be ample left to ripen for preserves. This sounds like a blessing to the consumer, and so it may be, but the grower has his doubts about it, so far as he is concerned. Heavy crops of Gooseberries means low prices in the market, and though the

earliest consignments sold well, there are general complaints now of the low prices realised by growers after the expenses of picking, carriage, and commission have been paid. Kentish growers confine themselves to a few standard market varieties, and the earliness of any sort is a distinct qualification. Crown Bob, Lancashire Lad, Greengage, and Whinham's Industry, with a few others, are household words in the Gooseberry growing districts.

Black Currants.

There is a general impression abroad that Black Currants are going to be a light crop this season, which is a matter for regret, as this is one of the most profitable crops the county produces. Black Currants invariably sell well, no matter how heavy the crops may be, for so general is the demand for this delicious fruit that one never hears complaints on the score of glut. Considering these facts, one would naturally think that planting would increase, and the output every year be larger, but it is not so; and, on the other hand, through one dire evil, I think the area under Black Currants is annually growing less. The evil mentioned is none other than the dreaded Black Currant bud mite, which is spreading devastation in so many Kentish plantations. In the absence of any reliable means of cure, growers are powerless to help themselves, and in the meantime the evil spreads; profitable plantations have to be uprooted, and they are often planted with Gooseberries, which has led to the increase of the culture of the latter fruit, and the greater scarcity of Currants. It seems likely that unless something can be done to prevent or cure the mite, Black Currant growing will become an industry of the past, and in the meantime those who are blessed with heavy crops this year will have reason to be thankful.

Strawberries.

Strawberry fields are a pretty sight now with their carpets of clean straw between the rows, and rich ripe berries nestling among the leaves. Picking has fairly commenced, and before these lines appear in print the work will be in full swing. From information I have been able to gather the Strawberry crop promises well, but at the time of writing the market is not at its fullest, and general returns are a matter of conjecture. Growers are not slow to take advantage of the first ripe berries, and when travelling among the Strawberry fields a few days ago I observed the initial picking operations in many fields. The opening pickings of half a dozen baskets will soon change to hundreds, and the Strawberry trains will convey the luscious fruit from Kentish fields to the districts where colliery shafts and factory chimneys are more plentiful than fruit plantations. Thankful as most people are for the recent welcome rains, the continuation of showery weather will cause some anxiety, as damp, dull days are not beneficial to ripening Strawberries. Royal Sovereign, on account of its earliness and general good qualities, is now a very popular variety with Kentish growers, but faith is by no means diminished in the popular Sir Joseph Paxton, which grows well, fruits heavily, and comes out fresh and tempting after being jolted about in a fruit van for a few hundred miles.

Cherries.

To write anything about Kentish fruit means, of course, to include Cherries, and when passing through a district where this fruit is largely grown at the present time, one might be forgiven for asking whether a musketry practice is going on. The report of firearms may be heard on every side, and the Cherry tenders stroll in and out among the trees to scare away the voracious birds. You will see fruit in various stages. Here and there great ladders are reared against the trees, and the pickers, mostly women, are up among the branches transferring the tempting looking fruit from the trees to the baskets on their backs. This means that picking has commenced among the earliest varieties, but at the time of writing the season is hardly in full swing. The second earlies are beginning to show colour, and the later ones are more backward still. Some weeks ago the Cherry prospects could not well have been brighter. Orchards everywhere were a sheet of blossom, and hopes ran high for a record crop. But it is not wise to jump at hasty conclusions, and, after setting well, large quantities of fruit have fallen, more so with some varieties than others, and though there is a general impression that the Cherry crop will be on the whole satisfactory, it will not be so heavy as was at one time anticipated.

Plums and Damsons.

Stone fruit is not as yet seriously occupying the minds of market fruit growers, and minds are not disturbed so far as crops are concerned. In most districts Plums promised so well, particularly the common varieties, that there are prospects of a glut, and Damsons are in most places laden with fruit. The Kentish Cluster Damson is a small round fruit, and inferior to the Prune Damson of the Midland shires, but in some seasons the crop is a most profitable one. Judging, however, from the loaded condition of the trees the supply this year will be so plentiful that jam makers will be able to fill up their pots at a low cost, and the one general grumble amongst the growers will be on account of poor prices. This, of course, is anticipation, but appearances certainly point in that direction.

Apples.

"We look like having some Apples this year," was the remark made to me the other day by a grower for market, and appearances are certainly in favour of it. In orchards and plantations trees are promising well for heavy crops, and if the codlin moth caterpillar is merciful fine fruit ought to be the result. This pest has caused much devastation during recent years by boring the fruit and causing it to fall prematurely, but the recent rains are much in favour of the crop. One thing at a time, however, must be the fruit grower's motto, and after the fruit that is now ripening has been disposed of he will have more leisure to discuss the crops of Apples, Plums, Damsons, and so on.—H. H.

London Gardens Over Fifty Years.—No. 23.**Town Gardening.**

WE believe the remark to be true that those persons who possess a love for flowers, or for Nature, are not radically bad and vicious. This leads us to a rather encouraging view of the majority of our workers who reside in populous London suburbs, since we see abundant evidence that they love and admire flowers; their windows, their back or front gardens—often sadly small—testify to the fact. No doubt pessimistic people will tell you this is mere imitativeness; they copy each other's ways. To some extent that may operate, but generally there is a higher influence behind their actions. Anyhow, it is well to cultivate or encourage a healthful taste, especially amongst the young, and one method of doing this is to give prizes for successful culture of plants. At some schools, elementary or other, seeds and plants are distributed in April or May to children promising to make good use of them. In addition, the last few years have witnessed the starting of floral societies. Each juvenile member pays a trifle and receives some packets of seeds or some rooted cuttings; towards autumn a show is held to exhibit the results, either as cut flowers or plants in pots. Sometimes they cannot be moved for exhibition, as when a boy at uninviting Shadwell took a prize for a Fuchsia 4 feet high trained on lattice-work outside his bedroom window; also ingenious devices with Ivy or other creepers attached to walls have to be judged where they are growing, if awarded prizes or commendation.

Allotment gardens are not uncommon about some London suburbs. They have various advantages, of course some drawbacks; the law of *meum* and *tuum*, for instance, is not observed strictly. A man excuses himself when he filches a fine Cabbage or Lettuce from his neighbour's plot with the excuse that persons will very likely take plants from his own garden if they have the opportunity. On the other hand those working such plots can be, and are, often helpful to their neighbours by the interchange of seeds and plants, or by giving information.

Bromley by Bow.

Places of the same name, but how different—Bromley by Bow and Bromley in Kent—though I cannot say that the latter is quite so charming a spot as it was some forty or fifty years since. Still it is rural in its surroundings yet; the Bromley of Essex was never that, being at its best simply a large bare expanse, with scattered villages or hamlets, now it has become a wilderness of houses having something like 70,000 inhabitants, and few open spaces available for health or recreation. The acre and a half of land, abutting on Leonard and Grace Streets, is part of it garden, a portion being reserved as a gymnasium and playground. It is called Bromley Recreation Ground, and was formally opened on the 14th of April last, by Mr. Ben Cooper, L.C.C., and it has already proved a great benefit to the poor neighbourhood. Bow is not any better off for open spaces than its neighbour, but two small churchyards, not an acre together, have been converted into gardens recently. Years ago they tried to raise early Potatoes in the vicinity of Bow and Bromley, though I do not think the land was particularly suitable. Also we might have strolled thereabout and seen fields of Mustard and Onions in summer.

Poplar in the East.

Poplar was certainly named from the groves of Poplar trees which flourished there in the olden time, the moist soil being much in their favour. Several of the London chroniclers mention having seen many large trees of some species of the genus; lately the district has been scant of trees, but planting has been recommenced under the encouragement of the Metropolitan Public Gardens Association. It was not from the Lime trees that Limehouse close by took its name; this arose from an ancient house in which the burning of lime was carried on. About ten years ago the churchyard of St. Anne's, Limehouse, a space of 3 acres, was opened to the public by the Countess of Strafford, and that of All Saints', Poplar, of similar size, in 1893 by Lady Reay. 'Tis no great walk, however, from this part of East London to the extensive marshes of Ham and Hackney, crossed by the Lea and numerous cuts or streamlets, not now the home of fish and the resort of wild fowl. Then the corporation of

West Ham has been active. In 1898, by the assistance of other public bodies and individuals, it secured 10 acres at Hermit Road, Plaistow, which is visited by young and old for miles around. West Ham has something bigger still, for it has acquired a park of 80 acres northward, towards Forest Gate, which has well arranged flower beds and a good display of shrubs. This is one of the suburbs that has grown immensely, its increase during the half-century being from 19,000 to 260,000.

Council Gardening.

One of the notable spaces of North London, which has been made over to the London County Council, is Waterlow Park, Highgate, through the generosity of Sir Sydney Waterlow, who prided himself on being a London apprentice. This was given ten years ago; the extent is about 29 acres, the park has some fine ornamental trees, also it has orchards, houses erected by its former possessor as well, which are still kept going. Hence, the London County Council appears in the character of a bestower of fruit. In 1898 there was an exceptionally good crop, and more than a ton of it was sent to various hospitals, besides about 1000 bunches of hothouse Grapes. I suspect last year the yield would be a smaller one, and probably in London suburbs this will not be a good fruit season. For several years Chrysanthemum shows have been held in Waterlow Park, the public having free admission to view thousands of plants.

We may safely say that, as a rule, parks, squares, pleasure gardens, and the like, intended for the public benefit, are better managed by such a body as the above Council than by private individuals. Lately it has been argued that suburban local bodies, if duly enthusiastic, prove very capable of taking charge, since they understand the requirements of a district. There are various instances, too, of such doing valuable work in securing open spaces. The Hackney District Council, for instance, has rescued from the builder many spaces, large and small, at the north or east of London. Queen's Wood, Highgate, formerly Churchward Bottom Wood, might have been cut up had not the Hornsey District Council put down £30,000 towards the sum required. This Council, in conjunction with other parties, is now endeavouring, I believe, to preserve the grounds of the Alexandra Palace, which have already been the scene of various flower shows. At the annual exhibition of flowers, fruit, and vegetables held there last year, when the allotment holders of Highgate, Hornsey, and Wood Green were on parade, Mr. H. C. Stephens, M.P., the opener, made reference to the Hornsey Council, calling it one of the most enterprising and careful in England. Out of the 600 exhibitors the great majority were allotment holders. Again, in the parish of Finchley, adjacent, allotment gardening has been a success, 50 acres of land being thus occupied.

Southgate.

It was about the middle of this century that entomologists used to visit the decidedly rural Southgate; it had a pleasant but small wood; amongst the Oaks were to be found insects not common near London, such as that pretty butterfly the purple hairstreak. To any gardener the old nursery of Southgate cannot but be interesting, as one of the very few remaining which date from last century. It was commenced by James Cuthbert in 1797, and that part of the ground toward the High Street has undergone little change, though portions of the original nursery have been built upon. James Cuthbert had served his apprenticeship at Hamilton Palace, and came south to the gardens at Luton Hoo, then in the possession of the Marquis of Bute. Having started this nursery he cultivated herbaceous plants, general outdoor shrubs, fruit trees, Camellias, and other exotics. I am told that several houses originally built for vineries are still in existence, and look as if they may see many years of the twentieth century. Some houses that were planted with double white Camellias eighty years ago can show the plants growing now, and in good condition. The nursery is at present carried on by George Cuthbert and his sons, who represent the fourth generation of the family. Only in May, 1900, the firm made a good display of Azaleas at the Temple Show of the Royal Horticultural Society.

Azaleas and Spiræas.

The Azalea has to some extent had its popularity diminished, owing to the advent of spring flowers, which are more pleasing to the public, though they may not have the grandeur of this Indian flower. Again, we have in the Spiræa a flower which has undergone a revolution. *S. japonica*, which people oddly called "Italian May," was grown as a hardy border plant, and a few were kept under glass in winter; now it is generally recognised as a useful plant for window decoration, and cut blooms are sought after from Christmas till April. At first our nurserymen got a supply of imported roots, France and Holland sending them over during autumn. Mr. Maller was one of the pioneers who showed how vigorous full-flowered plants could be raised. He grew thousands at Enfield by dividing the old plants in spring, putting them in an open sunny situation till the crowns were matured. These were then potted, and kept very moist during autumn.—J. R. S. C.



Rêve d'Or.

THE photographic reproduction (fig. 11) represents this fine Rose in its best form. When properly treated no variety will give a greater profusion of charming orange yellow blossoms from early June until checked by frost in the autumn. As is well known Rêve d'Or is a vigorous grower of the Noisette class, and is adapted for rambling up a pillar, over an arch, or to be trained into an informal pyramid. The representation herewith is one of six plants growing in front of the residence of R. Moss, Esq., Fern Hill, Blackwater. The plant is 9 feet high, 7 feet wide at 5 feet from the base, and 5 feet through at 8 feet high. Eleven years since a bud was inserted in an ordinary Brier stock. As is customary with this variety the growth was rapid, but as the plants were pruned hard back every year the blossoms were few in numbers. When the present gardener, Mr. W. Hunt, took charge four years since, instead of cutting the previous year's shoots hard back he did not prune at all, but simply tied in the growth, a practice since adopted annually, and with excellent results. Copious supplies of liquid manure are given to the roots about twice during the summer, which may partly account for the wonderful vigour and floriferousness displayed.—E. MOLYNEUX.

Hybrid Perpetual Roses.

HYBRID Perpetual Roses, the best and hardiest Roses for beds and borders in the gardens, are readily raised from cuttings, and they invariably give satisfaction when propagated in this way. Budding on the seedling Brier is the next best method of propagation. A most important point in connection with Rose growing is the situation. Light, air, and sunshine are needed in abundance, but shelter must be afforded from winds. A corner where the morning and midday sun can reach with adequate shelter from west, north, and east winds will be of great advantage.

Soil preparation is an important point, but it is not of much use to trouble with a naturally thin, poor, gravelly soil, as Roses will not succeed in it. The best plan if Roses are required to be grown in such a situation is to take out the material 2½ feet deep and replace with good rich, clayey loam if possible. Loam that is not clayey will answer, but it should be of a rich character. Soil full of humic matter or vegetable matter is well adapted, especially if it is thoroughly worked. Add to the loam cow and horse manure mixed with bone manure, and turn over two or three times. Finally allow it to settle down and become naturally consolidated before planting. November is the best month for this, the soil being moist, warm, and friable, which will induce new rootlets to form, and the plants will become fairly established before the advent of severe winter weather. Spread out the roots in holes sufficiently large to take them without cramming. If any are bruised or injured cut them smoothly, even if it is necessary to shorten considerably. A mulching on the ground over the roots serves the useful purpose of preventing severe frost entering. Ordinary stable manure or peat moss litter answers well.

Standard Roses must be staked immediately after planting, as it is not desirable the roots should be disturbed by wind. Partial shortening of long shoots may be carried out at planting time, but the main pruning should not be done until March or April, so as to prevent early growth that might be injured by frost. Pruning should be practised with a regard to the shape of the plant. Weakly wood is best cut closely out, leaving ten or a dozen shoots at equal distances apart. The finest blooms are produced by close pruning, leaving five or six buds. Strong shoots from dwarf Roses may be pegged down for this purpose, leaving them longer.

Another mulching may be given in spring shortly after the pruning is completed. Rake off first the old winter's mulch along with the prunings, and if necessary slightly point the surface. A liberal dressing of half-decayed cow or poultry manure mixed with sand or soil, or a dressing of a good general artificial manure will prove beneficial. It saves labour in watering during drought, and in a moist season the virtues in the manure will be readily washed into the soil, keeping the plants healthy and robust. A mulching of some kind is necessary to prevent the surface cracking and becoming so hard that it prevents the admission of air. Mildew and green fly soon follow in the event of the soil becoming dry. For these pests softsoap, sulphur, and tobacco water are the best remedies, together with breaking the surface and moistening the soil. The attacks of the Rose grub must be minimised by carefully searching for and destroying them, as being rolled up in the leaves they are not readily reached by insecticides.

Exhibition Roses are freely disbudded, the most promising buds being selected, shading them from very strong sunshine and heavy rain, at the same time feeding the plants with diluted liquid from the farmyard. Sulphate of ammonia, half an ounce to the gallon of water, increases the size of the blooms and hastens development.—ROSARIAN.

The Rose Garden.

THERE are few establishments of note, whether public or private, that do not possess a Rose garden. In some it consists of a few beds of choice varieties, in others a wider field is embraced by the inclusion of numerous climbing forms, and in others the whole garden becomes a Rose garden, for wherever one turns Roses meet the eye; here a bed of some choice Hybrid Perpetual, there a mass of the showy rugosa, again a graceful group of Crimson Rambler, a clump of Penzance Briers, beds of Fairy Roses and choice Teas, masses of showy species, or pergola or arbour smothered with free-flowering climbers.

In such a garden interest never wanes, flowers being found from the end of April until late autumn. It is always, too, a source of pleasure to pass from group to group comparing the respective merits of each, for every one has its own standard of beauty and excellence, and each in its own place is the most beautiful, that beauty being enhanced by the contrast shown by the respective sections. The graceful shoots of many of the species heavily laden with single, delicately coloured flowers, the perfect form and rich colour of a La France or Duke of Edinburgh, the lovely blossoms of many of the Teas, the graceful floriferous shoots of Crimson Rambler, or dwarf perpetual flowering Pompons, each and all help to make a rich and ever interesting display.

Although the culture of anything like a representative collection is not within the means of many people, a very interesting stock may be made by growing a select number of the best from each group, and by so planting as to make the most of the ground at disposal. A good plan is, if a separate garden is to be formed, to select a sunny, well drained hollow, sheltered at a short distance by large trees. With ground falling from each side to the middle much space may be gained, and more commanding positions found for many plants by terracing the sides, the soil being kept in position by tree roots and large stones. By the formation of bays in the face of the terrace excellent positions are gained for groups of choice varieties. The centre of the valley should be grass, in which beds for choice varieties might be made, relieved here and there by a bush of some profuse flowering and free habited subject.

The best soil is stiff loam; failing this the ground should be made up well before any planting is done. In any case the ground will require trenching 2 feet deep. When ready for planting, strong growing species or varieties should be selected for the uppermost terrace, isolated groups being planted between the back of the terrace and the shelter trees. For this position the following are very useful. *R. moschata*, a rampant growing South European species, reaching a height of 15 to 20 feet, and bearing large quantities of sweetly scented white flowers; the well known Polyantha Rose, *R. multiflora*, and its semi-double pink flowered hybrid the Dawson Rose; the curious, fragrant fruited microphylla rugosa, white and red; in a prominent position Crimson Rambler, its long shoots trained loosely to rough branches; the double form of repens, the ever beautiful canina, a group in the background of Carmine Pillar tied to long stakes, Flora with its pretty blush flowers, and hosts of others.

For a lower terrace the rugosa hybrids are excellent, while quite a number of dwarf growing species are to be had. Of the former Blanche Double de Coubert and Madame Geo. Bruant, semi-double whites, are excellent, growing 2 to 3 feet high and flowering very freely. Of reds Mrs. Anthony Waterer is a first-rate variety. The flowers are semi-double, deep red, and borne profusely, while of pinks Souvenir de Christophe Cochet and Belle Poitevine are good. Of species *R. alpina* red, hispida yellow, altaica white, humilis red, and others all growing about 3 feet high, might be used.

For the foot of the lowest terrace and for bays, we have *R. lutea* and its double variety Harrisoni, Austrian Copper, with its pretty bronze and golden blossoms; *R. indica* and its variety sanguinea, the many-coloured single and double varieties of the Scotch Rose; Wichuriana and its numerous hybrids, the pretty red flowered Fellenberg and many others.

For the centre beds choice Teas and Hybrid Perpetuals might be used, while between, groups of Penzance Briers would add beauty and fragrance. In one corner a rustic arbour covered with *R. setigera*, noisettiana, W. A. Richardson, and others would add to the effect; while if approved, garlands could be had by hanging loose chains between poles and clothing them with such free flowering varieties as Blairi II., Flora, or Crimson Rambler. For the first year or two a little shifting would doubtless be found necessary, but after that thinning and working the ground would be almost all the work required.—D.

Rose Shows.

Formby, July 11th.

FORMBY is fast becoming one of the fashionable suburbs of Liverpool, and although the huge sandhills blown up from the Mersey have made much waste land, yet energy and perseverance and a love for a garden have transformed the whole village, and barren land is giving way to gardens where fruits, flowers, and vegetables flourish in great luxuriance.

This year's show was marked by many special features of interest, none more so than the classes for Roses, which grow in prepared gardens here in the wildest profusion. The leading class for twenty-four was taken by Miss Rimmer of Ashurst, Formby; the cup, value 5 guineas, being won with a very excellent collection, comprising many choice varieties. Mr. Bernard Kennedy of Nithsdale, Formby, showed a wonderful twelve for the silver cup, Maman Cochet, La France, Mrs. W. J. Grant, Cleopatra, Kaiserin A. Victoria, Caroline Testout, Fisher Holmes, Madame Cusin, Edith Gifford, Marie Van Houtte, and Madame Hoste being splendid. Mr. C. Hacking was a very fair second. Again another cup went to Mr. Kennedy with a charming six, distinct; the Rev. J. B. Richardson following. Mr. Hacking had a smart six lights, and Mr. Kennedy six darks, each gentleman winning a silver cup. In addition to three silver cups, the premier bloom in the show was Mrs. W. J. Grant, also from Mr. Kennedy, a bloom surpassing any of the same variety met with this year. Mr. R. A. Rockliffe won the class and cup for twelve superb Teas or Noisettes, cups also going to Mr. T. Carlyle and the Rev. J. B. Richardson for grand flowers.

The decorative displays were equal, if not an advance on the majority of classes seen at larger shows, the table decorations being simply exquisite. Yellow Coreopsis, Dendrobium fimbriatum, with Gypsophila and Smilax worked in the most abandon manner, gained a splendid first for Mrs. Mathias. The second prize was a daring arrangement of blue Delphiniums and light and dark blue Cornflowers, but lacking a good base, Miss M. A. Rimmer deserving much praise. Roses were the attraction for baskets, Mrs. Mathias again scoring also in other classes. Mr. A. W. Ardran's cut Roses were beautiful examples, but with such an elaborate and lengthy prize list it is quite impossible to deal with the numerous exhibits.

There was much commendable work in the plant classes, fruit and vegetables calling for the highest approval. The exhibits of Messrs. Alex. Dickson & Sons, Newtownards, co. Down, were notable, as was their new deep crimson Tea "Liberty." Mr. Jno. Cowan, Gateacre, arranged a clean and choice selection of Orchids and other plants. Mr. H. Middlehurst showed Sweet Peas in large numbers; and Mr. Septimus

Pye, Garstang, had one of his large and charming displays of Pansies, Violas and Carnations.

Woodbridge, July 12th.

THIS show was held in splendid bright, hot weather in the excellent grounds of Captain R. J. Carthew, and the whole of the little town was, as usual, ablaze with bunting, and given up to its annual fête and holiday. The best weather for H.P. Roses is a cool, dull day after two or three hot ones, and the worst a hot day after a cool time. The standard was, therefore, low, and there was hardly a decent dark or

red H.P. to be seen. Last year Mr. B. R. Cant won outright the principal challenge cup, having gained it three times. A new one, valued at £25, was provided this year for thirty-six Roses, to be won four times before becoming the property of the owner. Mr. B. R. Cant was again successful, though his stand contained no H.P.'s up to the usual mark, Bessie Brown, Muriel Grahame, and Souvenir d'Elise were among his best. Frank Cant & Co. were a good second with a very light coloured stand, showing Bessie Brown, Mrs. W. J. Grant, and Killarney well. Messrs. Prior were third in this class, but first in the next for twenty-four Roses, a magnificent Maréchal Niel in the centre being well displayed. Mr. B. R. Cant was second with large blooms, and F. Cant & Co. third with smaller, but neat ones.

In twelve Teas (open) there were no first-class blooms, but a great many good second-class flowers, and the competition was close. Messrs. Prior gained the first award with a very level and clean collection, wanting in colour, but that was a very general complaint. Mr. B. R. Cant second, with some large blooms, but one or two were rough. Frank Cant and Co. third, with more rough ones. For twelve new Roses Mr. B. R. Cant was

first, having the smallest number of bad blooms and Killarney a good one. Messrs. Prior second, with Bessie Brown and Waltham Standard, pretty good, and more bad flowers. F. Cant & Co. third, with Ulster and Bessie, Brown and Mrs. E. Mawley, fair, and most bad ones.

For the best group of miscellaneous Roses (open) there was only one exhibitor, Mr. R. C. Notcutt of Ipswich and Woodbridge, and his stand was worthily awarded the prize, a Woodbridge medal. The judges approached a class for "the largest and best bunch of Roses" with some trepidation and mutual inquiries for a tape measure, but were reassured in finding there was only one exhibit, and that from the able hands of Mrs. Orpen, to whom they had no difficulty in awarding the first prize.

In the amateur divisions, the first prize in the principal class for twenty-four Roses was well won by Rev. A. Foster-Melliard. It was a good stand for the day, and the judges had little difficulty in awarding



FIG. 11.—ROSE RÊVE D'OR.

the medal for best H.P. or H.T. to Duchesse de Morny, a perfect bloom, which had opened that morning. The next best blooms were Bessie Brown, very fine, and Helen Keller. Mr. Orpen was second, his best blooms being Kaiserin Augusta Victoria and Innocente Pirola. Rev. A. C. Johnson third, with Mrs. John Laing and Innocente Pirola as his best, and some good colour in some of his H.P.'s.

In twelve Teas the old rivals occupied their usual positions, in strong competition, each showing their usual excellencies and defects. Mr. Orpen first, neat, clean, and well arranged, with Madame Hoste as his best. Mr. Foster-Melliar second with larger blooms, but not so neat, clean, and well arranged, with Mrs. E. Mawley and Maman Cochet as his best. Mr. Johnson was third. In an extra class for twelve Roses Mr. Orpen was third with never a red Rose in the twelve. Maman Cochet and Madame Cusin were good. Mr. Foster-Melliar second with another good Bessie Brown. In six similar H.P.'s Mr. Johnson was first with Mrs. John Laing, poor; Mr. Foster-Melliar second with Merveille de Lyon, poorer. In six similar Teas Mr. Orpen was first with Catherine Mermet, small; Mr. Foster-Melliar second with Innocente Pirola, fine. I regret being unable to report on the rest of the show.—W. R. RAILLEM.

Ulverston, July 13th.

ULVERSTON, so near to the English lakes, and beloved of Wordsworth, Ruskin, and other great writers, is a fitting situation for the show, which has now become a fixed institution in the minds of rosarians. Although Ulverston can only boast of some 8000 inhabitants the show committee can offer a prize list of over 80 guineas, engage the fine band of the Coldstream Guards, and announce the show by the most charming floral lithographs. How well the show stands in the Rose world is indicated by the fact that the National Rose Society visited there in 1897, and will do so again next year. The schedule was a broad and comprehensive one. Class 1 being for seventy-two distinct varieties. In this the Irish firm of Messrs. Alex. Dickson & Sons, Newtownards, and the Scotch firm of Messrs. D. & W. Croll, Dundee, joined issue, with the result that the former emerged successfully in the forefront.

For seventy-two, distinct (a class not often approached), Messrs. Alex. Dickson & Sons, Newtownards, staged the following—Mildred Grant, A. K. Williams, Marchioness of Downshire, Alice Lindsell, Star of Waltham, Mrs. W. J. Grant, Gustave Piganeau, Mrs. John Laing, Souvenir de S. A. Prince, Duchess of Albany, Alice Grahame, Madame Delville, Mrs. Ed. Mawley, Sultan of Zanzibar, Florence Pemberton, Earl of Dufferin, Souvenir d'un Ami, Duchess of Portland, Madame Cusin, Souvenir d'Elise Vardon, Gladys Harkness, Queen of Queens, Muriel Grahame, Robert Scott, Caroline Testout, Merveille de Lyon, Duchesse de Morny, Her Majesty, Ulrich Brunner, Kaiserin Augusta Victoria, Etienne Levet, Bessie Brown, Ulster, Horace Vernet, Danmark, Innocente Pirola, Marie Rady, Margaret Dickson, Général Jacqueminot, Exposition de Brie, Luciole, Louis Van Houtte, Comtesse de Nadaillac, Madame Hoste, Bridesmaid, Mrs. Conway Jones, Catherine Mermet, Captain Hayward, Golden Gate, J. S. Mill, Mrs. Sharman Crawford, Dr. Sewell, François Michelin, Pride of Waltham, Mr. B. R. Cant, Ernest Metz, Marchioness of Londonderry, Jeanie Dickson, Souvenir de Madame Eugène Verdier, Edward Herve, Lady Moyra Beauclerk, S. M. Rodocanachi, Souvenir d'Elise Vardon, Jean Ducher, Dr. Andry, Edith Gifford, Alfred Colomb, Madame Bravy, Francisca Kruger, Helen Keller, and Charles Lefebvre. Messrs. D. & W. Croll made a very smart display for second position. Also in the classes for thirty-six trebles the Dicksons were seen well ahead, Duchess of Portland, Alice Lindsell, Mildred Grant, and Ulster being greatly in evidence. Messrs. D. & W. Croll and H. V. Machin also helped to make up this imposing display.

For thirty-six distinct Roses Messrs. Alex. Dickson & Sons again won the prize; Messrs. D. & W. Croll second. The eighteen distinct, six darks, six lights, and six Teas, and twelve Teas or Noisettes of Messrs. Alex. Dickson had splendid blooms. They also won in superb form the classes for twelve lights with exquisite Bessie Brown; for twelve crimsons with grand Ulrich Brunner; for twelve new blooms, any Tea, with Mrs. E. Mawley. The class for twelve new Roses saw them with Mrs. Mawley, Gladys Harkness, Muriel Grahame, Bessie Brown, Florence Pemberton, Daisy, Ethel Richardson, Countess of Caledon, Killarney, Madame Cadeau Ramey, White Maman Cochet, and Edith D'Ombraïn. In each class Messrs. D. & W. Croll followed in good order. Alice Lindsell, a charming flesh-tinted Rose of fine form from Messrs. Alex. Dickson was the chosen best seedling Rose in the show, and to the handsome Bessie Brown was the honour of the bronze medal awarded, thus closing a memorable list for the Irish firm. The amateurs' classes were in many respects a special treat, new exhibitors filling up and wrestling the honours from very important growers.

For eighteen, distinct, Mr. J. H. Midgley, Grange-over-Sands, Mr. H. V. Machin, Workop, and Mr. Fred W. Tattersall all exhibited very superior blooms, the prizes being in the order named. For six H.P.'s light and six dark, distinct, Messrs. Machin and Midgley winning, another favourite exhibitor, the Rev. R. T. Langtree, being placed second. The Rev. R. Barton, Garsang, showed a choice nine Teas or Noisettes. Mr. Machin's four trebles were especially good, Gustave Piganeau, splendid, being awarded the bronze medal. Mr. J. T. Marsden won with extra fine blooms of Mrs. J. Laing. Bessie Brown gained the

bronze medal for Mr. R. L. Garnett, Lancaster, and Maman Cochet a similar honour for Mr. H. E. Johnson, Millom. The latter gentleman also wrested the Myles Woodbourne trophy from the Rev. R. T. Langtree with a lovely bloom of Maman Cochet, Mr. R. L. Garnett taking from Mrs. Marsden the 15-guinea challenge cup presented by the president, the Rev. R. T. Langtree.

Sweet Peas and Pansies were in quantity and quality an exhibition in themselves, Messrs. Alex. Dickson & Sons gaining the large class for Sweet Peas, also for a magnificent collection of hardy herbaceous and bulbous flowers. At the close the exhibits were sold for the Fund benefit. Apart from the subscriptions the gate money amounted to over £114, an advance of £15 on last year, and £9 more than at the National in 1897. Mr. G. H. Mackereth, as coadjutor of Mr. F. W. Poole, won golden opinions by his usefulness and activity, and enthusiasts of Ulverston feel that they owe much to those two gentlemen for their skill in organising the show.

Manchester, July 14th.

THE Manchester Royal Botanical Gardens annual Rose Show was opened on Saturday last. It is a very long time since the show was so well patronised. The season for Roses has not been too good around Manchester, but few came prepared to see what was probably the most extensive and beautiful exhibition recorded in the annals of the Society. Even one of the Crystal Palace judges said that perfection was to be seen on every side. Among the competitors were numbered Messrs. Alex. Dickson & Sons, Newtownards, Ireland; B. R. Cant, D. Prior and Son, Colchester; Townsend, Worcester; Frettingham, Beeston; and Harkness & Son, Bedale, all in capital form.

Messrs. Alex. Dickson & Sons were conspicuous with flowers of the most delightful hues, contour, and freshness. The varieties were Louis Van Houtte, Maman Cochet, E. Y. Teas, Marchioness of Dufferin, Exposition de Brie, Ernest Metz, Madame Delhomme, Duchess of Portland (seedling), Catherine Mermet, Alfred Colomb, La France, Gustave Piganeau, Countess Caledon, A. K. Williams, Caroline Testout, Tom Wood, Lady Moyra Beauclerk, Xavier Olibo, Marchioness of Londonderry, The Bride, Madame Cusin, Duke of Fife, Innocente Pirola, Comtesse de Nadaillac, Dr. Andry, Duke of Wellington, Souvenir de S. A. Prince, Dr. Andry, Ulrich Brunner, Souvenir President Carnot, Madame Crapelet, Mrs. Sharman Crawford, J. S. Mill, Mrs. J. Laing, François Michelin, Marie Baumann, Lady Clanmorris, Her Majesty, Marie Rady, Star of Waltham, Daisy, Madame Hoste, Duke of Albany, Mrs. Mawley, Suzanne Marie Rodocanachi, Ulster, Earl of Dufferin, Horace Vernet, Mrs. W. J. Grant, Bessie Brown, Helen Keller, and Muriel Grahame. Messrs. Alex. Dickson also exhibited the following lovely new seedlings, which will be mentioned more fully later:—Alice Grahame, Alice Lindsell, Mildred Grant, which was also awarded a silver medal for the best and newest Rose in the show; Edith D'Ombraïn, G. H. Mackereth, Robert Scott, and Janet Scott. The second honours went to Mr. B. R. Cant, of Colchester, with a choice even stand. Papa Lambert, Ulrich Brunner, Mrs. W. J. Grant, Cleopatra, Muriel Grahame, Duke of Wellington, and white Maman Cochet were grand. Messrs. Harkness and Sons, Bedale, came in a capital third, the flowers being somewhat smaller.

The class for thirty-six, distinct, brought out a keen competition, and the winning stand from Messrs. Alex. Dickson & Sons was not only equal, but surpassed the former large class. As the list may be useful in many ways it is given in full. Marchioness of Londonderry, Horace Vernet, Mrs. Laing, Florence Pemberton, Ulrich Brunner, A. K. Williams, Caroline Testout, Tom Wood, Margaret Dickson, Duc de Rohan, Lady Moyra Beauclerk, Earl of Dufferin, Her Majesty, Marchioness of Dufferin, Marie Rady, La France, Gustave Piganeau, Mrs. W. J. Grant, Dr. Andry, Bessie Brown, Comte Raimbaud, Dupuy Jamain, Marquise Litta, Alice Lindsell, Alfred Colomb, Mildred Grant, Innocente Pirola, Général Jacqueminot, Marchioness of Downshire, Madame Delville, Ulster, Kaiserin Augusta Victoria, Medea, and Mrs. R. S. Sharman Crawford. Mr. B. R. Cant again followed, the flowers of Mrs. W. J. Grant, Innocente Pirola, Maman Cochet, Golden Gate, White Maman Cochet, and Muriel Grahame being of perfect form. Messrs. Prior & Sons, Colchester, came in a fair third.

The class for twenty-four Teas or Noisettes, distinct, was probably the greatest ever staged at Manchester. Mr. George Prince figured in the front of this section with a charming display, Maréchal Niel, La Boule d'Or, white Maman Cochet, The Bride, Muriel Grahame, and Maman Cochet being especially fine. Mr. B. R. Cant followed in grand style, while Messrs. Alex. Dickson & Sons came third.

For twelve Teas or Noisettes Mr. Jno. Mattock, Oxford, was a splendid first with superb blooms. He also had the distinction of winning the society's silver medal for an extraordinarily beautiful Souvenir d'Elise Vardon. Mr. Geo. Prince was a good second. Mr. Mattock was again in advance for twelve Comtesse de Nadaillac, and Mr. Prince second. For twelve lights, the lovely new seedling Mildred Grant of Messrs. A. Dickson and Sons won the first prize, and Messrs. Harkness took the second with Souvenir d'Elise. The class for twelve crimsons Messrs. Dickson again scored with Ulrich Brunner, and Mr. Mattock with A. K. Williams.

The amateurs' prize for twenty-four, distinct, was an excellent win.

for Mr. E. B. Lindsell, of Hitchin. Mrs. J. Laing, Ulrich Brunner, François Michelin, Gustave Piganeau, Marchioness of Dufferin, Helen Keller, Maman Cochet, Madame Eugène Verdier, Duke of Connaught, Souvenir d'Elise Vardon, Horace Vernet, Muriel Grahame, Duchess of Bedford, Comtesse de Nadaillac, A. K. Williams, Marchioness of Londonderry, Alfred Colomb, Madame de Watteville, Marie Van Houtte, Mrs. W. J. Grant, Victor Hugo, The Bride, Dr. Sewell, and Madame Gabriel Luizet were the grand varieties in this stand. The Rev. J. H. Pemberton was a more than creditable second, his box containing many gems in form and colour. For twelve, distinct, Mr. Lindsell again staged in wonderful form, every flower being perfect; the Rev. J. H. Pemberton and Mr. R. Parke, Badale, following. For eighteen Teas or Noisettes Mr. Lindsell proved invincible, the best being Catherine Mermet, Ethel Brownlow, Ernest Metz, Souvenir d'Elise. The Rev. G. E.

Ashley was a close second, and Mr. E. Foley Hobbs third. For twelve Teas or Noisettes Messrs. R. Parke, Rev. J. H. Pemberton, and Mr. Lindsell made a capital display. The class for twelve yellows Mr. R. Parke first with excellent Kaiserin Augusta Victoria; Mr. Lindsell being second with Caroline Kuster. For twelve lights again Mr. Lindsell came to the fore with Maman Cochet, Mr. H. V. Machin second with Her Majesty. Twelve crimsons saw Mr. Lindsell in the order named for fine A. K. Williams.

The local classes were certainly an advance, some capital flowers being noted; Messrs. J. N. Midwood, J. Brown, J. G. Wood were the winners. For the best twelve bunches of Roses for button-hole purposes Mr. Jno. Mattock scored a clever victory, Mr. H. V. Machin being second. The display of garden Roses was wonderfully fine, nothing more beautiful in every respect being seen than the exhibit from Mr. Geo. Prince. Baskets formed a very conspicuous feature, clever work being noticed in Miss A.

Stanley's arrangement. Among bouquets of Roses Mr. Mattock achieved premier position.

The Sweet Peas were of exceptional quality, Mr. Geo. Prince having no difficulty in appropriating first prize for a well-arranged stand. Silver medals were unanimously awarded to Mr. Amos Perry, Winchmore Hill, for a most beautiful display of herbaceous and bulbous flowers; also to R. Wallace & Co., Colchester, for an equally fine and interesting display of the same family of plants and bulbs. Among Sweet Peas also Messrs. Eckford, Wem; Jones & Sons, Shrewsbury; and Mr. Hinton of Warwick gained coveted honours. Mr. Upjohn, gardener to the Earl of Ellesmere, Worsley Hall, secured an award of merit for a very characteristic *Amaranthus tricolor*; Messrs. R. Wallace, first-class certificate for *Lilium concolor* and *Eremurus Bungei*; award of merit for *L. Henryi* and *Humboldti*; and Mr. A. Perry first-class certificate for *E. Bungei*.

Lincoln's Inn Gardens.—On and after Monday next Lincoln's Inn Gardens will, by permission of the Benchers, be open every evening to the poor children of the surrounding districts from half-past six to eight o'clock, and on and after August 13th they will be open from five o'clock until dusk.



Lælio-Cattleya Henry Greenwood superba.

THE addition of the adjective *superba* was never better justified than in the case of this grand bigener, which was exhibited by Mr. W. H. Young, Orchid grower to Sir Frederic Wigan, Bart., Clare Lawn, East Sheen, at Richmond on June 27th, and again at

the Drill Hall on July 3rd. On the latter occasion the Orchid Committee recommended that *Lælio-Cattleya Henry Greenwood superba* (fig. 12) should be given a first-class certificate. The flowers are of splendid form, and, as may readily be seen in the illustration, it is of considerable size, the lip being particularly handsome. The sepals and petals are rich rose. The front part of the lip is deep velvety crimson, while the inner portion is soft primrose, and the wavy margins of the side lobes are bright rose.



FIG. 12.—LÆLIO-CATTELEYA HENRY GREENWOOD SUPERBA.

Orchids at Blackmore, West Derby.

THE fame of the *Dendrobiums* at Blackmore, the residence of Mrs. Heap, induced me this year to see them, and I felt more than repaid for my walk. The results of Mr. Jakeman's labours are exemplified on every plant, flower, and fruit; but for the present the Orchids must alone be noted, and others taken in their season. On the day of my visit there were

fully 1500 flowers open of *D. Wardianum*. These plants were suspended from the roof, and underneath were such varieties as *nobile*, *crassinode*, *aureum*, and *aggregatum*, with *Celogynes* making a finished and artistic picture. *D. Devonianum* thrives magnificently.

The notice would be incomplete did I not mention the secret of Mr. Jakeman's success. As soon as the plants are out of flower they are removed to a light structure, and given nothing but the natural moisture of the house until the new roots can be discerned, when water and syringing are resorted to. During summer a thin blind breaks the sun's rays, the temperature running up to 120°. Growth completed, a rest is given until the plants are wanted, when they are replaced in a good heat.—R. P. R.

Growing Orchids in Belgian Leaf Mould.

THE practice of growing Orchids in leaf mould in this country must still be regarded as in the experimental stage, though there is no doubt that it is on the increase. As yet it would be unwise to prophesy success or failure, but the results in more than one case that has come under my notice have been so very satisfactory that there is every reason to hope the former will accrue from its use. Unlike

the usual black and solid looking material that some gardeners call leaf mould the Belgian article is a light, well divided sharp feeling material that—at first at any rate—could not under ordinary circumstances damage the roots of the most delicate of Orchids. It is of course a very natural medium for Orchid roots, containing as it must do so much woody fibre, and it appears to me that if only the bulk can be prevented from getting into a sour and waterlogged condition through over-moistening them it will be satisfactory.

I am more than ever inclined to this view by seeing a very fine stock of Cattleyas and other Orchids growing under these conditions at Shipley Hall, Derby. A year ago these plants looked very promising, but at that time Mr. J. C. Tallack had only been experimenting a short time and was therefore not in a position to say much about it. Just now the pots appear to be full of roots, the plants look the very picture of health, and the number of growths springing from the base of the bulbs is remarkable. The plants are in pots of medium size, and owing to the nature of the material cannot be elevated much above the rim. A layer of sphagnum moss is placed on the surface to conserve moisture, thus preventing the necessity for very frequent watering.

This latter point seems to me to be the principal consideration. As long as sufficient moisture can be drawn from the leaf mould for the need of the roots there is no necessity for continual soakings of water, which only fine down the material without any corresponding benefit, and the sphagnum on the surface is always to a certain extent drawing moisture from the atmosphere. Just at present there appears to be some difficulty in getting supplies of the Belgian article, but doubtless in case of a demand arising this would soon be forthcoming. And without being too optimistic as to results it would be well worth while to try the effect of some of the leaf deposits of our woods at home. Many readers will doubtless have tried the fibre that collects about Pine woods, but this never seemed to me to be just what was wanted. Where there are mixed plantations of evergreen and deciduous trees, or of forest trees and Conifers, there is more likely to be a proper blend of leaf and woody textures, and it should be possible by experimenting for a year or two with plants of little value to find out whether the effects were good or the reverse. Possibly, too, some of our more difficult species may by these means be induced to thrive. Take for instance the charming set of *Oncidiums*, of which *O. Marshallianum*, *O. crispum*, and its allies *O. Forbesi* and others, are well known members. They are often imported, and as often killed, and anyone who could find out a way to insure their holding on for years under cultivation would be a benefactor to all classes of orchidists. I am not saying that this leaf mould is going to prove a panacea for their ills, but when one sees easily grown kinds increased in vigour by its use, there is at least a possibility that more difficult species may also be assisted. In the meantime it would be very interesting to hear the experience of any readers who have tried it.—H. R. R.

Biennials.

WHATEVER may be the future of flower gardening, and it does undergo changes from time to time, there seems to be little fear that old favourite flowers, especially such as commonly grown biennials, will ever be ostracised. It does not follow that these old favourites are still regarded as such because of any garden sentiment, for sentiment has to go by the board when fashion dominates, but rather it is because these old plants are so beautiful, so comparatively hardy, so easily raised and grown, and because everybody likes to see these flowers in their respective seasons. But even biennials of to-day are not exactly those of half a century since. They may still be Wallflowers, or Sweet Williams, or Canterbury Bells, or Foxgloves, but in all cases how much have they been improved. Possibly their existing popularity is largely due to the fact that they have kept pace with the progression found in the Rose, Carnation, Pink, Dahlia, and many other old-fashioned favourite garden flowers, all of which for the same reason seem to be more popular in gardens than they were in bygone days.

Sweet Williams.

Sweet Williams, just now coming into bloom, are, when well grown, very beautiful, and extremely varied. I have no sympathy with those seedsmen who for the sake of getting very large flowers limit colours and markings to merely ringed pips, all exactly alike. These, because large and rounded, may be regarded as the finest for exhibition; but in gardens a strain that shows at least a dozen diverse hues and markings, with fine pips and large trusses, is far more pleasing and decorative. To have such strains it is not needful to tie oneself to any one seedsmen. It is best to purchase small quantities from three or four vendors, and mix altogether. When the plants flower it is easy to tie a piece of bast round the stems of a few of the most variously coloured and finest trusses, and later save the

seed. That is the way to secure a charming strain. Sweet William seed should be sown in the open ground early in May, and in drills 12 inches apart. In a couple of months the seedlings are strong enough to be lifted and dibbled out into borders, or if preferred into a special bed. As seed saved one year ripens too late to produce, even if at once sown, strong flowering plants for the following year, it is needful to have seed in hand to sow at the proper time. The plants do best when got out early, and on good deeply worked soil. Whether the flowers have smooth edges or serrated ones is a matter of little moment. If they be fine and varied in colours and in markings all are beautiful. It is not the least charm of the Sweet William that it gives the grower so little trouble, and is so hardy.

Foxgloves.

The improved Foxgloves, or *Digitalis*, are beautifully spotted as a rule, and are much taller in spike and fuller in flower than are the common wild forms. The white varieties are striking objects in a garden, strong plants sending up spikes to a height of 6 feet and even taller, whilst many long side shoots also bloom freely. But whatever the colour, white, flesh, rose, red, or purple, those having deep coloured large spots in the throat are the most attractive, greatly excelling those even of the finest flowers that are pure selfs. Foxgloves, to be seen in their perfect beauty, should not only bloom strong, but in quantity. Colonies of from twelve to twenty plants give superb effects, although single plants here and there in broad borders are very beautiful. Seeds of a few of the finest and most varied can easily be saved, as these plants are marvellously prolific. With them the best time to sow seed is in the month of May, to insure having strong plants to flower the following year. The seed must be sown thinly, and it is often wise to raise plants in shallow pans or boxes under glass where there is danger that seed may fail if sown in the open ground; germination may be much assisted if the bed be occasionally watered and shaded in the daytime.

Canterbury Bells.

Canterbury Bells have in this common term what seems to be an undying appellation. How everyone knows them so-called, how few know them as *Campanula media*. There are few more beautiful biennials than these, yet they have the demerit that their lovely bells soon collapse under heat such as prevails in June, commonly when they are in bloom. But if the plants be strong they flower with wonderful profusion, so that the early loss of the flower is speedily compensated by the production of others. Whilst Canterbury Bells were originally restricted to single flowers, the first break was found in the production of the floral calyx, which assumed the appearance of a floral collar, or a saucer in which the floral bell when placed erect stood as a cup. This proved to be a very beautiful addition to these old fashioned biennials, and was soon followed by semi-double and double bells, the former always being the finest and most perfectly formed, the latter having cup crammed into cup so tightly as to almost produce barrenness. In both sections of single, semi-double, and double flowers, with the normal green calyx, and the calycanthemas, with the floral calyx, numerous colours abound, generally very beautiful ones also, so that a good mixed strain of these biennials furnishes great variety. I have found seed bad to germinate in the open in some soils, but it will do so freely on fine soils well enriched with manure or leaf soil, and with some sand in it. It is always well, in addition to sowing out of doors in May, to also sow seed in one or two shallow pans, and thus raise plants under glass, that there may be no failures.

Hollyhocks.

Hollyhocks are usually classed as biennials, but they can be induced to flower the same year if seed be sown in warmth under glass in March. Still, if sown in May outdoors, where it readily germinates, strong plants are produced to flower the following year. These also have a certain perennial character, as they will continue to exist for several years. To have them at their best, however, it is wisest to sow seed annually, as thus a good stock of healthy plants is obtained.

Various Plants.

Wallflowers rank amongst the most widely grown of all hardy garden flowers. The introduction of comparatively annual strains does not minimise the popularity of Wallflowers as biennials. They are now very varied, but the blood red, yellow, and lemon are the most pleasing. The month of May furnishes the best average time for sowing seed. Pentstemons and Antirrhinums are as much annual as biennial, as they flower freely the same season as raised, and both have marked perennial characters. Yet from seed they are primarily regarded as biennials, as raised from June sowings they make strong plants to put out in the autumn, blooming profusely and long the following year. Brompton and Queen Stocks used to be popular biennials, but they are now too seldom seen in gardens. This is a misfortune, as they are so deliciously perfumed, but neither are thoroughly hardy, hence they are less widely grown.—D.

NOTES

NOTICES



Recent Weather in London.—The violent storms that have occurred in the eastern counties have not visited London, though it has been intensely hot with occasional lightning. Monday was the hottest day of the year, one authority putting the shade temperature at 95°. At the time of going to press on Wednesday the heat showed no signs of abating.

Royal Bees in a Letter Box.—A swarm of bees, escaping from Princess Henry of Battenburg's gardens, took refuge in the pillar box outside the royal entrance to Osborne. The postman, at some risk, made his usual collection, but the bees showed no signs of leaving, and have had to be smothered.

Tar as a Dressing for Tree Wounds.—Some time ago, writes Mr. C. E. Curtis in the "Estates Gazette," I had occasion to refer to the subject of the healing of wounds in trees by occlusion. The trees which I then pruned, and to which I alluded, are growing rapidly since the operation, and the wounds are now almost covered over. In the case of those surfaces which were tarred, and to which I also drew attention, the wounds have made no advance in healing; in fact the bark has separated from the wood all round the wound and decay has set in. This clearly shows that by the application of tar the cambium layer, or region of active growth and development, is injured.

Competition in Pears—The competition in early Pear supplies to this country between California and France has now begun in earnest. In a week or two about 7000 cases of choice Pears from California will be put upon the London markets. At this time of the year the French senders will have some difficulty in doing anything like that, and it is expected that this season French Pears will sustain a severe check in the English markets. A supply of large, ripe Pears in July from California must have an appreciable effect on the fruit trade, and already the market men of Paris are doing their utmost to compete with the early Californian shipment. They cannot, however, touch them for quality. Among dealers, salesmen, and buyers it is pretty generally agreed that the competition between the two sections of Pear growers will be very keen.

Camberwell Flowers.—A crowded gathering was drawn on Friday to Cambridge House, Camberwell Road, when Lady Macnaghten gave the prizes to those who had contributed to the Flower and Industrial Exhibition. All that was said of the various exhibits, their ingenuity and varied character, was well deserved. The head of the house, the Rev. W. Falkner Bailey, and his staff of workers are carrying through an admirable work, which at certain seasons embraces a children's country holiday organisation, happy evenings, convalescent homes, lads' church brigade, a federation of toilers' clubs, house lectures, friendly societies, and Soldiers' and Sailors' Families Association. Dr. Talbot, Bishop of Rochester, and Mrs. Talbot have a keen and earnest interest in this growing University Settlement.

The Alexandra Palace.—It is interesting to note, says a daily paper, that the owners of the Alexandra Palace and grounds have no power to cut up the land for building. They could not even use the Palace and grounds as a private dwelling-house for themselves. By Act of Parliament they are bound to maintain the Palace grounds as "a place for public resort and recreation," and it is expressly provided by statute (the Muswell Hill Estate and Railways Act, 1866) that "the public shall have access thereto at all reasonable times subject to the observance of such rules and regulations as may from time to time be prescribed by the company or other the owners or lessees for the time being of the said grounds for the proper order, preservation, and management thereof, and of the palace buildings, works, and other property therein, and subject also to the payment of such reasonable sums as may from time to time in like manner be prescribed for admission to the said grounds, palace, or other such buildings or works, or to any exhibition or sights therein." The only portion which can be cut up for building, or from which the public can be excluded is that small portion known as "The Grove," having an area of 10 acres or thereabouts.

Highwaymen's Haunt as a Park.—Grange Wood, Croydon, which the Corporation has just decided to turn into a public park, formerly enjoyed an unenviable notoriety. On four occasions it was the spot chosen by Jack Sheppard and Jonathan Wild for robbing the mail coach.

South Ontario Apple Orchards.—These are more than usually promising for a good crop of fruit. There are a few drawbacks, for in some sections the web worm is very abundant, and in others the canker worm has stripped the trees until one would think a fire had gone through the orchards. Baldwins have set a very fine load of fruit, but Spys Pippins are very light. There will be a fair crop of Astrachan, Russet, and other varieties.

Cherries from France.—Kent, the beautiful "Garden of England," has her Cherry trees borne down with the weight of their ruddy fruit, and yet in London most of us are refreshing ourselves with Cherries grown in France. All over Kent the Cherry crop is exceptional—in the Sittingbourne district the fruit of one set of orchards realised £1600 against an average yield of £800. But all over Kent also there have been whole days of rain, and much of the fruit has been spoilt. "In many cases," said a dealer, "it is not the grower who will suffer. It's the speculator who goes down in the spring, before the Cherries have even appeared on the trees, and offered him a price for his orchard's crop. It is a sporting deal, and the subsequent frost, rain, sunshine, and wind have their influence on the outcome. Now the dealer has a big crop, and at the eleventh hour the rain is cheating him of his profits." Fruit dealers state, says a daily paper, that there is every promise of big crops of Plums, Pears, and Apples in the English orchards. A fortnight hence they expect the first arrival of Californian Pears, and fine fruit they will be.

Cambridge Botanical Garden.—Among the plants of interest that have flowered in these gardens during the past year are *Brocchinia cordylinoides*, a Bromeliad from British Guiana of remarkable caulescent habit; *Campanumæa javanica*, a newly cultivated genus of Campanulaceæ; *Codon Royeni* var., a curious plant from the Cape; *Colocasia Fontanesi*, a remarkable Aroid of violet, almost black coloration, with yellow spathes (to be figured in the "Botanical Magazine"); *Cotyledon (Echeveria) Purpusi*, exceptional in its hardy character, figured in the "Botanical Magazine," 1899, tab. 7713; *Crinum Van Tubergen*, and described by the Curator as previously unnamed; a hybrid *Galtonia (Galtonia princeps × G. candicans)*, raised by the Curator; *Epiphronitis Veitchi*, a bigeneric hybrid Orchid; *Eulophia Coleæ* and *E. Phillipsiæ*, interesting Orchids from Somali land; *Macleania insignis*, figured in the "Botanical Magazine," January, 1900, tab. 7694; *Matthiola sinuata* var. *oyensis*, a curious glabrous variety from Western France, figured in the "Botanical Magazine," March, 1900, tab. 7703; *Veronica Cookiana*, and various hybrids of *Cineraria (Senecio)* raised by Miss Pertz, with others by the Curator. An account of the hybrid *Cinerarias* raised by the Curator is published in the "Journal of the Royal Horticultural Society," April, 1900, page 269.

Heroes in Humble Life.—We live in days when only those who kill, or assist in so doing, are regarded as heroes. But how many men and women are there in humble life whose efforts are in the direction of saving and supporting human life, and in helping to promote happiness and prosperity rather than war and bloodshed. Such people as these I meet with constantly in our Surrey rural districts. Men and women whose means are small, who live in humble cottages, whose lives are alway of labour, and who in their walks play their parts admirably. Happily for them they want no poetry in their praise. Have they not Burns, who sang the lay of the poor in his beautiful "Cotter's Saturday Night," and Gray's "Short and Simple Annals of the Poor?" A few days ago I had to judge the gardens of such people. The tidy, well-spoken woman, was an admirable type of the English labourer's wife, and she came to show me the extent of the garden. It was probably 50 rods in area, splendidly cropped and kept. Besides vegetables of great excellence there were fruits and flowers, the latter in rich profusion, with many stocks of bees. "What is your husband?" I asked. "A farm labourer," she replied. "How does he find time to do this garden so well?" "He is up early and late, and never goes to a public house," was the reply. "Do you help him?" "Well, sir, I pull a few weeds, but I have three children and three lodgers to look after." "And who hives the bees when they swarm?" "I do when low enough down." Such people as these are, or should be, the pride and lory of our nation. Would that we had such by millions.—A. D.

Death of Mr. B. R. Cant.—It is with the deepest regret that we learn from Wednesday's "Morning Leader" of the death on Tuesday of Mr. Benjamin R. Cant, the eminent Colchester rosarian. The deceased had attained to the ripe age of seventy-three years. For very many years Mr. Cant has been identified with Rose growing and exhibiting, and he was generally regarded as a leading authority on all matters appertaining to the queen of flowers.

Giant Mushrooms.—Newton, in South Lincolnshire, asserts that it has gathered a Mushroom which weighs something more than 2 lbs., and boasts a circumference of over 34 inches. Covent Garden quite believes the story. A dealer there, a man learned in fungi, told how he once found a gigantic Mushroom. "I was down at Lowestoft with my wife and children," he said to an "Express" representative. "My rule is to take a walk before breakfast and have a look at the green-grocers' shops. One morning, at a little shop down by the sea, I found my giant. It was about 12 inches across, and weighed 1½ lb. I asked the shopkeeper for 2 lbs. of Mushrooms, and he weighed me the big one in at 1s. 6d. per lb. It did for breakfast for half a dozen, and was the very best I have ever eaten. Some substance in it, you may be sure. A Mushroom like that is as good as a steak. It is no uncommon thing for Puff-balls—*Lycoperdon bovista*—to be brought to market here weighing 1½ cwt. I have seen them so big that they would not go into a bushel basket. Although I have not tried to eat them myself, I have heard that Puff-balls cut in slices and fried make an excellent breakfast dish. And these giants grow in one night."

The Old Deer Park, Kew.—"Sir,—For several years after the appointment, in 1841, of my father, the late Sir William Jackson Hooker, as director of the Royal Gardens, Kew, the control of the Deer Park was included in that office. At that time—and, indeed, till the date of his lamented death—his Royal Highness the Prince Consort took a personal interest in the condition of both the Garden and the Deer Park, paying not infrequent visits to both; and I well remember after one such visit, when the subject of utilising the Deer Park had been under consideration, my father telling me that he had been greatly relieved by his Royal Highness having assured him that it was never to be built upon. I may add that on a recent later occasion I received the same assurance from Mr. Redgraves, then secretary to the Office of Woods and Forests. It need hardly be pointed out that the erection of the National Physical Laboratory in the Deer Park would be the thin end of the wedge. Any such laboratory would, I hope, in the interests of science, require in future indefinite extension; and buildings for one national object may be expected to be followed by others, to the destruction of the amenities of the Deer Park and of the Royal Gardens, Kew."—*Jos. D. Hooker, late Director, Royal Gardens, Kew* (in the "Times.")

The Hottest Day of the Year.—Monday proved to be the hottest experienced in London this year. As early as eleven o'clock the thermometer in the Strand registered 91° in the shade and 132° in the sun, rising to 92° and 136° at two o'clock, as compared with 84° and 123° respectively on Sunday. The sun shone uninterruptedly and with overpowering effect, and with little or no breeze to temper it a large number of those engaged in exposed situations were compelled to cease work.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
July.		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
Sunday.. 8	N.N.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday.. 9	W.N.W.	58.6	55.0	65.2	42.2	—	61.5	60.5	56.9	33.1
Tuesday 10	W.N.W.	63.4	56.1	72.4	55.2	—	62.6	60.3	57.1	49.0
Wed'sday 11	S.S.W.	66.7	57.3	82.7	51.8	—	63.2	60.5	57.1	42.3
Thursday 12	S.S.E.	71.7	64.9	83.9	51.5	—	65.9	61.2	57.2	43.5
Friday .. 13	E.S.E.	73.8	64.9	78.2	60.3	—	68.2	62.2	57.4	51.3
Saturday 14	S.S.W.	71.4	64.3	82.1	54.9	—	67.9	62.8	57.6	47.6
		64.9	60.9	75.2	57.3	—	67.9	63.2	57.8	48.5
MEANS ..		67.2	60.5	77.1	53.3	Total —	65.3	61.5	57.3	45.0

The weather has been bright and hot all week. No rain has fallen since the 6th inst.

Fossil Water Plant Found.—A remarkably fine specimen of the lower part of a calamite—popularly known as a "fossil tree"—has been unearthed at Fall Top Quarry, Clayton. No precise measurements have yet been taken, but some idea of the dimensions of the fossil may be obtained from the fact that the upright stump, broken off about 2 feet above the springing of the roots, is fully 4 feet in diameter. It is also stated that the branches of the root are considerably larger than those of any of the fossil trees which have previously been brought to light in this district. These gigantic water plants of the remote ages constitute one of the main sources of our coal supply. It is stated that this calamite may be removed to the South of England for permanent exhibition at some place where the local geology precludes the possibility of a fossil of this kind being met with.

Devon Gardeners' Association.—The annual summer excursion of this association took place on 11th July, 1900, and was, as usual, a most enjoyable one. The party proceeded by train to Axminster, and after visiting and inspecting the church, proceeded in breaks to Lyme Regis. The drive was particularly pleasant, as there was a nice breeze, and the surrounding landscape, "in verdure clad," very beautiful. On reaching Lyme the party was joined by Mr. Radford, of the Schools, who discharged the duties of "guide, philosopher, and friend," showing the visitors the church, the Guildhall, and the Masonic Hall. After an excellent lunch and one or two toasts the voyagers proceeded to Pinhay, the seat of Mr. Wilson Allhusen. Here they were met by the bailiff and head gardener, Mr. Bloye, who conducted them over the grounds and gardens, and through the winding paths in the woods verging on the scene of the great landslip. Some of the views in the woods and coastwards were most picturesque, and impressed the visitors greatly. The next halt was made at Rousdon, the seat of Sir Cuthbert Peek, Bart. Here the gardeners were taken in hand by Mr. Bailey, the head gardener, who conducted them through the vineries and fruit forcing houses, which were in admirable condition. The long trellised walks, canopied with luxuriant plant growth, and the trim hedges of Japanese Maples and flowering shrubs, were much admired. Leaving Rousdon the great landslip was reached, and the marvellous features of this mighty upheaval of nature were pointed out and wondered at. A long and pleasant walk along the cliffs brought the party to Seaton, where tea was served. The return journey from Seaton was made by the last train, and the annual summer outing of this flourishing association must again be recorded as a great success. Mr. Andrew Hope (hon. secretary) and Mr. W. Mackay (hon. treasurer) and the committee made most satisfactory arrangements in all respects.

Sweet Pea Bicentenary Exhibition.

To a well-attended meeting of the executive committee, held at the Horticultural Club on July 13th, the hon. secretary, Mr. R. Dean, V.M.H., reported that the entries to date for the forthcoming exhibition of July 20th and 21st would necessitate the hire or purchase of nearly 3000 vases. As 3000 bunches of Sweet Peas would make a very attractive show, the committee considered matters were progressing favourably, especially as two days' entries would have to be added. A very large amount of space available for non-competitive and trade displays had already been applied for.

The programme for the celebration was arranged as follows:—Friday, July 20th, judging to commence punctually at eleven o'clock; opening ceremony by Alderman and Sheriff Sir W. P. Treloar, president of the celebration, at one o'clock; luncheon at half-past one, P.M.; conference proceedings open at four P.M., when the papers to be read are "History of the Sweet Pea," by Mr. S. B. Dicks; "Classification of Sweet Peas," by Mr. W. P. Wright; and "Some Points on the Culture and Decorative Uses of the Sweet Pea," by Mr. H. Dunkin.

On Saturday morning the Classification Committee, which consists of the members of the executive, together with Messrs. Leonard Sutton, H. Hicks, P. Waterer, J. Eckford, G. Stanton, and the Rev. W. T. Hutchins, commence their duties of classification and selection at half-past ten A.M.; at two P.M. the conference proceedings will be continued, the papers to be read being "Evolution and Improvement of the Sweet Pea," by Messrs. J. S. Eckford and C. H. Curtis; "The Sweet Pea in America," by the Rev. W. T. Hutchins; and "Perfume in Sweet Peas," by Mr. W. Cuthbertson.

The executive committee decided upon a small neat silver and blue enamel badge for the committee and officers, but arrangements will be made so that those who wish to secure a copy of this commemorative badge may do so at a small cost.



Seeds and Temperatures.

THE experiments conducted by Mons. E. Schrebaux in relation to the degree of heat seeds will endure without injury to germinative power, to which reference was made last week, naturally leads to the query as to whether any severe tests have been applied to seeds for the purpose of determining in what temperature they will keep longest and best. I have been surprised this season to find better wrinkled Peas and Dwarf French Beans, kept in a very dry room and in an average temperature of 50°, and simply in canvas bags for two years, gave first-rate growth; so good, indeed, as to lead to the impression that a further storage of a year would have done them no harm. Still, in the keeping of seeds so very much depends on thorough maturation, and the warm season of 1898 contributed to that end thoroughly, as also did last season. It may not be generally known that consignments of seeds sent to India, Africa, and other hot climates are subjected to considerable warmth first.—GERMINAL.

Fruit Tasters.

SEVERAL months ago complaint was made in the *Journal of Horticulture* and elsewhere of the disappearance of the fruits that were sent to the Drill Hall for inspection by the Fruit and Vegetable Committee of the Royal Horticultural Society. It was then said that no sooner had the committee risen from the table than the remaining specimens disappeared in an illegitimate way. Since those references to what is unquestionably a malpractice I have watched this section of the fortnightly exhibitions closely, and have come to the conclusion that the tasting of specimens is becoming more and more common. I have heard, too, exhibitors expressing themselves in no measured terms, and asserting that some steps ought to be taken to suppress the nuisance, which it is undoubtedly.

Becoming still more interested in the matter, I endeavoured to learn who were the most serious defaulters, and was surprised to find that the Society's own students were credited with the greatest appetites. Doubtless these young men, sent to Chiswick to learn fruit growing, have endeavoured to increase their knowledge through the medium of this channel, but that they are alone to blame is by no means the truth. Whether they should touch the fruit or not is for the Council to decide; personally, I think they should not do so except with the express permission of the exhibitor. Then it was readily observed that the representatives of the gardening press did not hesitate to tickle their palates with the choicest of the products. This, in moderation, must be regarded as perfectly right, as it is very certain that if they did not do so they would not be in a position to state their opinions of the flavour of new varieties for the benefit of their readers. As far as I could ascertain not one exhibitor took any exception to this.

This, then, accounts for two sections of the community who are responsible to a greater or less extent for the disappearance of the fruit. There is, however, a third, and that is the visiting public. It seems that some of these have come to regard the eating of new varieties of fruit as one of the privileges of Fellows who subscribe a guinea a year. As a matter of fact such is not the case. They have absolutely no right to touch a single specimen. It is most disheartening for an exhibitor to find three parts of the whole of his produce taken by persons who apparently wish for no better occupation than that of tasters to the society. It was only one or two meetings ago that I saw whole baskets of Strawberries simply gorged, one man answering for something over a pound. At the same meeting, too, I noticed that one Cherry had been taken from a basket of superb fruits. "Only one," some reader may say, "why that is nothing." In bulk it may not be much, but it was sufficient to mar the appearance of the exhibit, and to upset the equanimity of the grower, who, as a member of the council, vowed vengeance on the unknown depredator. As the council does not appear to be taking any steps to abate the practice, perhaps some readers of the *Journal of Horticulture* can suggest a simple means.

On the occasion of a recent meeting a visitor went even further than the tasting, and actually took seeds from a Melon, wrapped them in paper, and placed them carefully in his pocket. Surely this could be stopped? A gardener sends a Melon in all good faith, and would not object for a moment to anyone tasting, but he would object to seeds being appropriated. The chances are he, if his variety receives an award

of merit, will sell the stock to a seedsman, and in doing so will assure him that he has the whole of the seeds. How can he know that through someone taking seeds from the fruit exhibited he is deceiving the firm with which he is dealing? It is common knowledge that the tasting of fruits is largely practised, and I for one should welcome some feasible plan of stopping it.—EXHIBITOR.

Garrya elliptica.

WE often read of the non-hardiness of this most useful shrub, which can be cultivated in a variety of forms, especially as pyramidal, bush, trained as arches, or as hedges. I always believed it to be perfectly hardy until the past season, when it suffered here from the severe frost of last December. One day the thermometer fell from 4° below freezing point to 30° of frost, and that did all the mischief which was sustained here to shrubs and Roses. Very late unripened growth was responsible for much of this. The Garryas were uninjured by the severe frost of five years ago. Two plants in a low position, where wet often accumulates and drainage cannot be secured, were never injured before this season. Their dense coating of long racemes of catkins were always very striking. The outside wood, more or less being dead, was cut back during May, and is now shooting out all over very thickly. Other plants facing the south, acting as pyramids for sixteen or seventeen years past, were injured in the wood growth of the past season, but are now furnishing themselves in first-rate order.

Other plants acting as pillars by doorways are more or less injured, but will soon be again in good form by dense healthy growth. But the most striking instance of the usefulness of *Garrya elliptica* was at Bannockburn, near Stirling, where a dense hedge was seen from the high road, and was beautiful when covered with catkins. This was pruned with the careful use of a knife by thinning. I do not know how the plants have fared this year. The position was high, and exposed to north and north-east. I do not know why we often read of the tenderness of Garryas in England, especially in southern parts. I never used to think this could be correct, as I have seen it finely developed in English counties.—M. TEMPLE, *Carron, Stirlingshire, N.B.*

The National Rose Society's Metropolitan Show.

A Gallant Fight.

ALTHOUGH this exhibition was below the average, it nevertheless presented many points of interest. I watched one episode with peculiar interest, and that was the contest for the Tea challenge trophy. I happened to be near where the judging went on, and saw that for nearly half an hour the judges were hesitating between two stands. Of these one was that exhibited by Mr. Alex. Hill Gray, of Beaulieu, Newbridge, Bath, and the other that shown by the Rev. F. R. Burnside, of St. Margaret's at Cliffe, Dover.

The interest of the contest arose from the inequality of the conditions under which the exhibitors fought. Mr. Hill Gray is the most enthusiastic grower of Tea Roses, and finding that the situation in Scotland where he lived prevented him from growing them as he wished, he left there and went through the southern counties of England in order to fix upon a place suitable for the purpose. It was not wonderful that he was attracted by the air and position of Bath. Here he pitched his tent upon a hill greatly sheltered and made still more sheltered by the walls and terraces that he made. He has for some years grown a splendid collection of Tea and Noisette Roses, exhibiting and carrying off the principal prizes in the Tea classes with his rich and varied collection. The Rev. F. R. Burnside, on the contrary, lives on a high cliff close to the South Foreland, swept by every wind of heaven and exposed to the continual storms that sweep through the English Channel, and he has but a few hundred plants.

When therefore I heard that the Rev. Mr. Burnside was going to compete for the challenge trophy, I could not help exclaiming, "What cheek!" knowing that he would have not only Mr. Hill Gray, but the East Anglian parsons pitted against him, and also Mr. O. G. Orpen, the holder of the Tea challenge trophy last year. Well, what happened? For fully half an hour I watched the judges counting the blooms and powdering over them, apparently unable to decide. So close indeed was it that while the judges were debating one of our most successful exhibitors came up to me and said, "I think Burnside will have the challenge Tea trophy." He did not certainly, but it will be seen he made the running very close indeed. When therefore people tell me of the difficulties they have, and how they are handicapped by growers of large numbers, I can cite this as a proof that large numbers need not frighten skilful exhibitors. Mr. Burnside has now left St. Margaret's, and it will be a matter of interest to watch whether, in the very different soil and climate of Essex, he is able to keep the proud position he has won for himself as a most successful grower of Tea Roses.—SPECTATOR.

Notes on Figs Under Glass.

TREES in pots for early forcing must be kept free from red spider by syringing at least once a day, in hot weather twice, directing the force of the water against the under side of the leaves; and if this is not sufficient an insecticide must be employed, as it is important that the foliage be kept clean, and perform its functions to the last. Afford liquid manure at the roots—not to the extent of causing exuberance, but to insure a due supply of nutriment and the storing of assimilated matter in the wood. Pinching, to induce a neat habit in young plants with fruitfulness, must be attended to, regulating the growth by stopping in accordance with the vigour and the variety.

Strong-growing plants require more stopping than others of moderate vigour, but in all cases avoid crowding the shoots, for fruitfulness is not so much dependent on ample foliage or growths as on the sturdiness and proportion duly exposed to light. The trees must be kept sufficiently far apart to permit proper development in each individual, under all the light possible, affording ventilation freely to solidify the growth as it is made. The pinching of trees for early forcing must not be practised after this date, but the young growths allowed to mature, as on that of their points being well perfected depends the first crop fruit another season.

Planted - out trees started at the new year have the second crop in an advanced state, and it must be thinned if too thickly set, there not being any danger of this crop dropping, as occurs frequently with the first, reserving the fruit at the base of the growths, as these finish better than those near their points. Thinning the second crop is of vital importance, because bearing is an exhausting process, and the first crop next year having to be borne on the well-ripened points of the growths of the preceding year, that part must not be enfeebled by carrying a heavy load of fruit. First crops are the most valuable, and the chief cause of their failure is imperfect ripening of the wood with impairment of the energies of the trees by carrying a previous heavy second crop.

Attend regularly to training and stopping the shoots, keeping the points well exposed to the light. Tie loosely, leaving plenty of space in the ligatures. Above all train thinly, stop side shoots at the fifth leaf, and rub off those not required, for spur growths to the extent of crowding is fatal to fruitfulness. Afford water copiously through a light mulching of short lumpy manure, horse droppings duly sweetened being unsurpassed.

If fresh manure be used, and too abundantly, there is danger of inducing soft growths. Light dressings admit air and contain ammoniacal elements, which both in the soil and atmosphere benefit the trees. Liquid manure or top-dressings of chemical fertilisers washed in will be necessary according to the vigour of the trees and the extent of the rooting area. They can hardly have too much water in hot weather, provided the soil is not made sodden, and they store more matter in a week of fine weather than in a week of dull. This applies to warm borders of sound material over thorough drainage.

Forcibly eject red spider by syringing twice a day in bright weather, otherwise occasionally. Admit a little air constantly, and increase it early in the morning; close early in the afternoon with plenty of atmospheric moisture, allowing the heat to rise to 90°, 95°, or 100°, then the fruit will swell to a good size.—GROWER.

Tuberous Begonias.

CONSIDERING the utility of tuberous Begonias it is not at all surprising that they have become so popular during the past few years. But a decade or so ago these plants were practically unknown to amateurs, and, moreover, the uses to which Begonias were then put differed materially from those of the present day. At the former period tuberous Begonias were only to be found in the conservatories of the wealthy and the glass houses of nurserymen, but since then matters have changed, and now it is an uncommon occurrence not to find them in most small gardens. Indeed, one might go further, and assert that tuberous Begonias are grown by the majority of amateurs both for the decoration of greenhouses and window boxes and the embellishment of the flower garden.

It cannot be said that tuberous Begonias are difficult to grow, it being a comparatively easy matter to raise a large number of plants from seed, provided a well heated greenhouse or propagating case is forthcoming. The seeds should be sown in the spring, and therefore it would serve no useful



FIG. 13.—THE GATES, TATTON PARK.

purpose to refer at length to that portion of their cultivation at present. Amateurs who have not facilities for raising plants from seed may procure tubers from advertising firms in the winter, or flowering plants now. The latter procedure would, in some respects, better meet the requirements of many persons, and if the plants are judiciously treated they will continue to bloom until the autumn is well advanced.

In the flower garden tuberous Begonias have to a great extent taken the place of Zonal Pelargoniums. The plants produce a good display of blossom under these circumstances if grown in a light fertile soil. As is well known, they are planted in the beds during May or June, and if the weather is dry through the summer occasional waterings may be advantageously given. A mulching of cocoa-nut fibre refuse will also preserve the moisture in the soil and benefit the plants. When frost has damaged the blooms lift the Begonias and store the tubers in dry sand or cocoa-nut fibre refuse in a shallow box, and place where frost cannot reach them. In this position they will keep until the spring, when place in pots in heat, and grow again for another season.

There are numerous named varieties, as a glance at any trade list will show. Those depicted in the illustration (fig. 15, page 63) are Duke of York, dark red; Mrs. Regnart, chrome yellow; Countess of Craven, white rose-edged; and Lord Dunraven, rich scarlet.—F. R.

Tatton Park.

IN pleasant country two miles from the market town of Knutsford, Cheshire, lies Tatton Park, the home of the Egertons of Tatton. The drive from the lodge close to the town is through a magnificent avenue of spreading Beech. On the occasion of my visit, however, I approached Tatton from an opposite direction, detraining at Ashley, whence there is two miles along a country road ere the entrance is reached. The time of my visit was early May, when Nature had again put on her garb of freshest green after a prolonged rest. The orchards were wreathed in bloom, the groves resounded with melody, the Marsh Marigold decked the margins of the brooks and pools with gold, and the modest Violet scarcely deigned to raise her head along the hedgerow side. Tatton Park, the seat of Earl Egerton of Tatton, Lord-Lieutenant of Cheshire, is some 1886 acres in extent, and has a herd of 1000 deer, with water covering 71 acres. The park has been largely replanted by the present lord previous to 1891. The drive, upwards of a mile in length, by which I approached, had a double row of young Limes planted at 36 feet apart and protected by triangular wooden cradles and wire netting. Large clumps of Pines and deciduous trees were noticeable on every side, and belts of Rhododendrons skirted the drive at intervals. The hall of freestone, in the Ionic style of architecture, was built in 1805; the entrance on the southern side is a noble portico supported by four massive columns.

The Fruit Houses

The extensive gardens under the charge of Mr. Cliffe, who was unfortunately away from home at the time of my visit, and I had to depend upon Mr. Booker, the foreman, to show me around, and to make matters worse he was a comparative stranger to the place, and, as a consequence, my description of these gardens will perhaps not do them justice. A splendid range of fruit houses contains in the five vineries Black Hamburg, Madresfield Court, Muscat of Alexandria, and in the remaining two divisions mixtures of Gros Maroc and Gros Colman. In this range, too, were four Peach houses, in all of which the trees had set well and were in various stages of development. The trees in the later houses were similarly excellent. The structure devoted to Brown Turkey Figs is in another part of the kitchen garden. The four trees were bearing a capital crop. A second Fig house was stocked with White Marseilles, from which Figs had been gathered since early in April. About eighty plants of Queen Pines were showing fine fruit; while the Cucumbers in a long span-roofed house were robust and bearing splendidly; the varieties were Lockie's Perfection and Telegraph. A similar structure with beds on each side had been recently planted with Melons; while a third contained a stock of vigorous Hackwood-Park Tomatoes showing their first trusses. One of the necessities of Tatton is a continuous supply of French Beans, and a considerable amount of space is therefore devoted to them. Lady Downe's Grape was in flower, and in the early vinery, filled mainly with Black Hamburg, the berries were colouring very satisfactorily. Royal Sovereign Strawberries were ripening in another

house, on the back wall of which Veitch's Climbing French Bean was in luxuriant health; successional Strawberries were in cold frames.

The Conservatory.

Close to the mansion is a lofty curvilinear-roofed conservatory, in which Camellias and Roses are planted. The rafters are festooned with greenhouse climbers, amongst which were *Acacia dealbata* and *A. longiflora*, also many of the charming old blush-flowered *Begonia incarnata*. The side stages and margins of the walk were arranged with Zonal and Cape Pelargoniums, Callas, and Indian Azaleas. An adjoining greenhouse, the pillars and rafters of which were clothed with *Begonia incarnata* and *Lasiandra macrantha*, were many scented leaved plants.

The Fernery.

The fernery is no less than 100 feet long by 50 feet in width, and 30 feet high. It is an imposing house, and is the most remarkable feature of Tatton Gardens. There are no less than eighteen large Tree Ferns planted out, and which include *Dicksonia antarctica*, *D. squarrosa*, *Cyathea dealbata*, and *Alsophila australis*. A large example of the

latter at one end reaches the roof, and in the centre a splendid *Seaforthia elegans* has attained a similar noble height. There are two *Chamerops excelsa*, and two *Areca Baneri*. On each side of the central path and amongst the giant Ferns are rocky mounds clothed with *Selaginella*, *Tradescantia*, and smaller-growing Ferns. Raised on pedestal stands above the surface of a pool at the extreme end were pans of Filmy Ferns, consisting of *Todea superba*, *Trichomanes radicans*, and *Hymenophyllum chilense*. The projecting rocks,

to a considerable height, were adorned with many noble *Woodwardia radicans*, whose overhanging fronds were more than a yard in length.

The Plant Houses.

A range of three span-roofed plant houses was next entered. In one of these were two plants of *Epiphyllum truncatum*, 6 feet long, trained up the rafters, and thick in proportion; they had been a mass of bloom, and were particularly conspicuous. *Begonia corallina*, planted out, also ran up the rafters, and was very pleasing. The stages were stocked with *Crotons*, *Dracenas*, *Pandanus*, *Panax Victoris*, and other useful table plants. A collection of healthy *Odontoglossum crispum* was also noticed in another house, while the end division contained *Anthurium Scherzerianum* Wardi full of their most brilliant spathes. *Dipladenia Brearleyana* was planted out and trained on the roof, and was opening its great pink trumpet blooms, and *Clerodendron Balfourianum* was laden with flower. Other roof climbers were *Dipladenia boliviensis*, *Thunbergia laurifolia*, and *Cissus discolor*. The Orchid range was divided into compartments, in which were *Cattleyas*, *Laelias*, *Oncidiums*, *Dendrobiums*, *Cypripediums*. *Cattleya chocoensis* was in flower, as also was *C. citrina* and *Oncidium sphacelatum*. Other plants, grown for winter use, included *Poinsettias*, *Linum trigynum*, *Clerodendron fallax*, *Bouvardias*, and *Calanthe Veitchi*. *Eucharis* are well and largely grown.

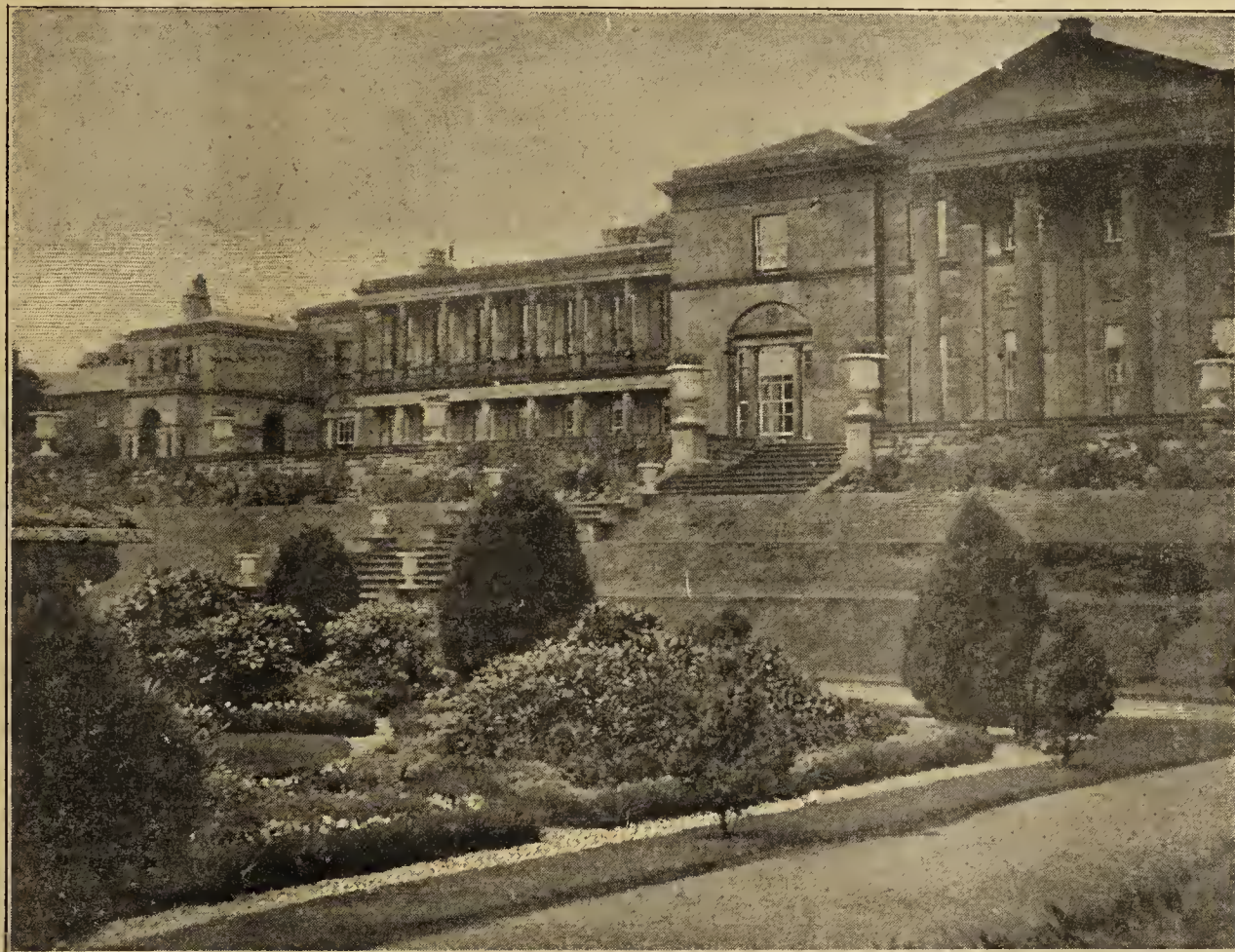


FIG. 14.—TATTON PARK.

Vegetables and Fruits out of Doors.

In the kitchen gardens Peas and Strawberries were particularly good. The outdoor Peach trees were also set well with fruit, and a Morello Cherry wall was a sheet of bloom. Herbaceous plants are largely grown here, and under the shadow of a noble Cedar of Lebanon near the conservatory a hardy fernery was observed. A mound covered with *Vinca major* was pleasing, and amidst the Ferns *Saxifraga crassifolia* had a striking effect. There are two flower gardens. In one of these climbing Roses ramble over an arbour, and pyramids of Crimson Rambler rose from the grass. In the second flower garden below the broad gravel terrace the central fountain has a mermaid in white marble. The wall of the terrace and the newels of the steps are surmounted at intervals by stone, while *Gloire de Dijon* and *Souvenir de la Malmaison* Roses ramble at will. A 14 feet wall near the house is covered with climbing plants and protected in severe weather by frigidoma on rollers, the wall would be 100 or more feet in length. Amongst the large plants on this wall were two *Magnolia grandiflora*, *Buddleia globosa*, *Garrya elliptica*, *Escallonia macrantha*, two large *Laurustinus* full of flower, and a fine plant of *Spiraea prunifolia plena* laden with miniature white button shaped flowers. The pleasure grounds are extensive and beautifully kept; there are large clumps of hybrid *Rhododendrons*, and many large blooms, besides fine Conifers.—F. STREET.

Layering Malmaison Carnations.

IN order to get strong plants, well established before the winter, layering should be performed as early as possible, and without doubt one of the chief points which contribute toward success in the culture of these popular flowers is to have the soil well permeated with roots by the time the plants are placed in their winter quarters; with due care in watering they then make steady and continuous progress, and are not susceptible to the attacks of eelworms and rust. I like to layer the plants in pits or frames, in which 6 inches of prepared compost has been placed. Good sweet garden soil, with a liberal addition of leaf soil and sharp sand, is a suitable mixture for the purpose; the roots move quickly in it, and there is less danger of loss through wireworm than when turfy loam is employed. All soils in which eelworms are known to abound should be burnt before being used for Carnations of any description.

In carrying out the work of layering, strip off a few of the bottom leaves from each shoot, then plant a row along the back of the frame; "tongue" each shoot just under the lower leaves, fasten securely in the soil with a wire peg, and cover with a little additional soil. If the shoots are fixed in an almost vertical position it will insure leaving the "tongue" open, a condition necessary to secure the rapid success of roots. I find there is usually a tendency among young men to "tongue" the shoots too far below the leaves, with the result that plants are "leggy." An ideal plant when rooted should not be more than 4 inches in height, with foliage down to within half an inch of the roots. After the back row has been operated upon place another row in position, and follow the same course throughout. The layers can then be arranged evenly over the whole surface of the soil, and a great number can be placed in a single light. After layering water thoroughly through a rose. Shade through the day whenever the weather is bright, and give no air for a few days. If syringing is practised once or twice daily the layers will be kept fresh and healthy, and will soon emit roots. After the first week admit a little air, and gradually increase the amount, till the light can be withdrawn altogether as soon as the plants begin to grow. Steady showers falling on the plants invigorate them immensely, but the lights must be placed over them should heavy downpours occur, or the soil may get too wet and cause the young roots to decay.

When the plants are potted I place them in 5-inch pots, using a compost formed of three parts turfy loam, which has been burned; one part leaf soil, half a part wood ashes, and some sharp sand added. Firm potting should be practised, and plenty of room be left for holding water. A few half-inch bones placed over one large crock form excellent drainage, and the bones feed the plant at the critical time—viz., when the flower buds are swelling. When pit room is not available the plants may be placed in the open air, but should heavy rains occur shortly after they are potted, the pots ought to be turned on their sides to prevent the soil from getting too wet. For this reason it is always advisable to place them under glass for a time, as the lights can be drawn off during fine weather. Great care in watering is necessary throughout the autumn and winter months, as

there is so little root action going on that it is an easy matter to over-water. It is far better to err on the side of keeping the soil too dry, than in the opposite direction. The surface of the soil should be stirred occasionally to keep it sweet, and thus help to maintain the plants in good health.

The Churchwarden is one of the strongest and healthiest growing varieties among the whole family of Malmaisons, and all who require a large crimson-scarlet flower should obtain it.—D. W.

Applying Liquid and Artificial Manure.

AT this season of the year liquid and artificial manures are frequently brought into requisition in the cultivation of various crops, both outdoors and under glass. Plants in a flowering condition, those making new growth and others bearing crops, need assistance to enable them to give good results. The manuring must, however, be done judiciously, not applying it in a reckless manner by using in a thick muddy state, too strong, or applying too frequently. In a clear state and properly diluted liquid manure is very effective in sustaining growth and assisting the development of most crops. The best plan to follow in using stimulants of any kind is to apply them weak and often.

Among the plants which now require assistance outdoors are kitchen garden crops, including Celery, Runner Beans, Cauliflowers, Brussels Sprouts, and Asparagus. These crops may, as a rule, have liquid manure applied stronger than would be safe for plants in pots. The stimulants are best given when the ground is moist. Plums, Apples, Pears, are promising good crops this season, and the trees will be much benefited and helped in bringing the crop to perfection if the roots can draw upon a good food supply as they require. Vines appropriate much moisture when perfecting a crop, so some stimulants, either in a liquid or powder state, should be washed into the soil, and if the roots are plentiful and near the surface of the border, a mulching of manure is necessary to maintain equable conditions. There are some excellent general artificial manures which may be employed, and usually with good results.

The frequent use of manure in some form is necessary in the culture of Tomatoes, crops demanding much support at this time, especially if growing in pots, where the rooting space is restricted. In addition to top-dressings of rich manure, or a compost of manure and soil, soot water, diluted stable drainings, or sprinklings of some compound manure are necessary to continue growth and the free setting of fruit.

Chrysanthemums in pots are largely dependent on frequent applications of liquid and artificial manures, but none should be applied before roots have occupied the pots freely, as it only tends to sour the soil and promote a sappy growth. Care must be exercised in this respect, beginning with weak applications of clear soot water and varying the diet. No harm can be done if applied weak and clear, but much damage may be wrought by strong applications frequently applied. The feeding process extends over a long time, so the best results must follow a judicious use of stimulants in the early stages. Fuchsias in pots in greenhouses can often be induced to continue growth and blooming if active rooting can be promoted by gentle stimulants. Ferns at this season in pots may receive liquid manure with advantage if the soil is well occupied with roots. Soot water is excellent for them, and should be used in a clear state.

Wall Roses, and other climbers which make new wood after blooming, derive considerable benefit from mulchings of manure when copious supplies of water are used. The rooting medium for these is seldom too moist, the reverse usually being the case, owing to the free drainage occasioned by wall foundations. The various sections of Dahlias when blooming freely and the weather is dry should be assisted to continue by frequent applications of liquid stimulants, alternating with clear water. Many trees, shrubs, and plants fairly well established, but probably making a weakly growth, can be assisted by well moistening the soil as far as the roots extend with liquid manure of moderate strength. The blooming period of Sweet Peas can be prolonged by judiciously feeding the plants at the roots and preventing the pods seeding.

In planting Winter Greens at this time it is quite safe to use liquid manure, if it is possible to obtain it, instead of water. Established plants may also be stimulated into active growth by its use. In the herbaceous border numerous plants coming into bloom may require extra assistance, which may be given by slight mulchings and waterings with stimulants.—E. D. S.



Strawberries Sun-scalded.—It would be interesting to learn if this phenomenon has been observed elsewhere during the bright sunshine and tropical heat, which, especially on the 10th and 11th inst., at Birmingham. The gardener in charge of a large garden near where I am writing informed me that dozens of the best berries of his Royal Sovereign were blistered, and quickly resolved into a liquid condition soon after gathering, and spoilt uninjured berries in close contact. Those berries shaded by the foliage of the plants escaped injury. My friends had never observed a similar affection previously, neither have I ever noticed it, at least to the same extent, during a long life experience in growing Strawberries.—G.

The Chestnut Plantations.—This year for the first time I have been a good deal among the Chestnut plantations of the South of England. The Chestnut is not a very English-looking tree, somehow, and one is inclined to regard it as an alien. Still, it thrives well on many soils, and makes by no means a useless underwood as distinguished from an ornamental timber tree. It may, when ripe, be cut for Hop poles, and it is largely used for making fences and also for parts of farm waggons, but not for house or outhouse buildings. It is a close, hard wood. Laslett, in his "Timber and Timber Trees," says it is of "moderate hardness and weight," but the qualifying adjective was scarcely called for. The Chestnut makes rather a gloomy dark plantation, so far as the interior is concerned, and scarcely anything will grow under the thick foliage. It is also monotonously uniform in appearance.

A Wild Garden.—I have this day seen the most charming wilderness garden. It is a tract of about a quarter of an acre, bordering on one of the most highly kept and richly flowered gardens in Reading. It was the owner's whim to leave this untouched last year, and unmowed until this autumn. This year the same is to take place, and Nature has been allowed its own sweet way through the whole of the season. The result is a wilderness of the choicest wild flowers, many familiar forms, and some as beautiful as unexpected. Amongst the last—viz., especially being the brilliant yellow and most fragrant scents of the *Galium verum*. I hope I have got the name right; better known, perhaps, though this is new to me, as the Lady's Bedstraw. Vast masses of this are now perfuming the air. To those who desire a new floral sensation, and can appreciate beauty unadorned side by side with that adorned the most, I would say, let a grass field corner have its own sweet will through all the summer.—A. C.

Potato Growth.—Whilst I thought my own most carefully preserved Potato sets had suffered from storing in a somewhat dry warm place—but over which I have no control—yet when I find how universally Potato plants have come unevenly, I realised that some general cause had operated to produce the effect seen. That cause, I can have no doubt whatever, is the one stated so forcibly by Mr. A. W. Sutton on page 6, as I planted largely very fine and apparently capitally matured sets, yet the sprouts from the eyes were weak, indeed out of all proportion to the size and firmness of the tubers. I saw the other day, in the gardens of Holly Lodge, Highgate, a further curious illustration of the truth of Mr. Sutton's conviction in a big breadth of Windsor Castle, the growth of which was very even, yet in every case was relatively weak compared with the growth found on a breadth close by, which was distinctly luxuriant, showing the variety in its best form. The first breadth was from seed tubers saved in the gardens, the latter from seed tubers bought in, and no doubt from the north. But the difference was singularly marked. I have this season also noted a great deal of what is commonly called rust, especially on early varieties, causing the leaves to turn nearly black, and the tops to be short and devoid of vigour. In some places this rust is greatly in evidence. I attribute this chiefly to the drought of last year failing to induce the peronospora spores to spread in the tubers, and thus decay them, hence being apparently sound they were stored and planted, with the result that now the disease is early manifested in this rust-like condition in the plants. Sets not decayed cut open have shown the disease in the flesh.—WANDERER.

Cultivating with a Rake.—Few people know the use of a rake among little plants in the garden. There is no tool more important. Get a wide rake, with long straight teeth, not too close together. You can do more work in an hour with it than you can in five hours with any other tool. Rake right across the plants; never fear that you will pull them up. You will be surprised to see how neatly the plants slip through the teeth. Young Onions, Radishes, Beets, Cabbages, and Tomatoes can be quickly and easily gone over.

Cherries.—A nervous old gentleman lunching out with some friends helped himself to some fine Blackheart Cherries which were on the table. Before eating them he washed each one in his tumbler of water, saying as he did so how very careful one ought to be to clean the Cherries thoroughly, as there was always a certain amount of dust and microbes on them. He enlarged at great length on this subject. Having finished his Cherries and eaten a biscuit, he took up his glass and drank the contents. Everyone round the table was silently much amused, but nobody had the courage, says a writer in a contemporary, to tell the old gentleman of the mistake he had made. He is still in happy ignorance, and none the worse for his dose.

How Basic Slag is Obtained.—Not long since the writer was talking to a man who objected to the use of basic slag because he had been told that it was iron filings and the sweepings up of foundries, and he could not see how they would help crops. For the information of others equally in the dark, it may be here pointed out that basic slag is a product in the purification of steel made under a particular process, where lime is added to combine with the phosphorus, forming a phosphate of lime. The resulting compound, being lighter than the metal, floats on the top as oil does on water, and forms a scum or slag, which is run off the top, just like any other slag.—("Farmers' Gazette.")

Some July Flowers.—These are the days of the Delphinium's glory. Almost every well tended herbaceous garden in which the owner takes a pride has some of these tall flowers of the dazzling blue. Outside the garden the hedgesides and the strips of green at the edge of the road are gay just now with the purple Vetchlings and the Mallow and Bedstraw. The yellow Bedstraw, by far the finest and sweetest of its tribe, is just coming on, and in the hedges the snow-white blossoms of the Privet are taking the place of the great masses of Elder flower. In the shadier spots the wild Orchids are blossoming in quantities. The broad leaved Helleborine is just coming out in the woods; and the lovely rose coloured pyramidal Orchis is in its glory. July is a great month for the flowers of the wild and of the garden alike. Roaming about Selborne Hanger and Common the other day, I found, says a writer in the "Daily Express," several specimens of the fungus known as *Agaricus rubescens*. It was growing under the Beech trees where there was very little undergrowth of any kind. This fungus is very rarely eaten in England, but on the Continent it is much esteemed. Ketchup is made from it, and it is also eaten like the Mushroom. It is most frequently found under the Oak and Chestnut trees.

Allotments at Highgate.—I had the pleasure a few days since of looking over the admirable group of some fifty small allotment gardens, the Baroness Burdett Coutts has so kindly provided for the workers of that locality. The ground is near the stud farm, and on the lower part of the Holly Lodge estate. It is of a somewhat stiff clay, but its tenacious nature has been materially mitigated by the introduction of street manure and sweepings, some of the plots being appreciably raised in that way. The plots are about 9 rods each in extent. They all face to a cart road, which is nearly circular in shape, and there are broad gates at the end of the ground. In that way soil or manure can be drawn by carts to each plot. Then because of these road frontages almost every plot has a nice flower garden in front. Some of these are quite a rod in area, and not a few are charmingly planted and kept. As on the annual show day of the allotment produce the enclosure where the plots are is thrown open to the public, there is great ambition on the part of the workers to have very gay fronts. Generally the cropping was first-rate. I pointed one on the Surrey county basis, and found it so remarkably well was the ground utilised and so admirable the produce, that it totalled up to 148, which is very high indeed for so small a plot. It was no doubt the best in the field. Competitions for prizes have been proceeding for several years, and to those competitions is so greatly due the admirable work seen at Highgate. Competition really becomes the soul of good work everywhere.—A. D.

Royal Horticultural Society.

Drill Hall, July 17th.

THE Drill Hall was not particularly well filled on Tuesday, but the produce exhibited was exceptionally interesting. Orchids, as is customary at this period of the year, were not very numerous, but the exhibits of the Floral Committee were fine as well as diversified. In this section the Crotons were particularly fine, as the colour was so rich; hardy flowers were, of course, of exceptional quality. Strawberries and Raspberries were admirably staged by Messrs. J. Veitch and Sons from their Langley Nursery.

Fruit Committee.

Present: G. Bunyard, Esq. (in the chair); with the Rev. W. Wilks and Messrs. H. Esling, J. Cheal, A. F. Barron, G. Kelf, S. Mortimer, J. T. Miles, W. J. Empson, G. Wythes, F. Q. Lane, G. Norman, E. Beckett, and H. Balderson.

Messrs. J. Carter & Co., High Holborn, contributed an excellent collection of Lettuces, including Long Stander, Tom Thumb, Harbinger, Nonpareil, Ne Plus Ultra, All the Year Round, Northern King Cos, Sugar Loaf Cos, Green Fringed, Grand Admiral, Large Yellow, Perpetual, Continuity, Hanson and Berlin. Messrs. J. Cheal & Sons, Crawley, were represented by a collection of standard Currants and Gooseberries. The group formed an excellent example of the adaptability of these fruits to this form of culture. Red Currant La Fertile was magnificently fruited, as were Blanche de Weider, and Gooseberries Jolly Farmer, Gretna Green, and Red Smith. The same firm sent also single and double cordons.

Mr. W. A. Clark, Hungerford, sent fruits of a yellow Tomato of fine appearance. Messrs. G. Charlton & Co., Morpeth, exhibited bushes of Gooseberry Victoria, on which the fruits were thickly clustered and of good size. A beautiful basket of the Logan Berry was staged by the Rev. W. Wilks, Shirley, the fruits being fine and well coloured. From Mr. T. L. Pelly, The Vineries, Ruspur, Sussex, came twelve bunches of Black Hamburgs in grand form.

Mr. Allan, gardener to Lord Suffield, Gunton Park, staged three dishes of Lady Suffield Strawberry in fine condition; while Mr. G. Norman, gardener to Lord Salisbury, Hatfield, contributed a box of Brown Turkey Figs, well grown and in the pink of condition. Messrs. Cross & Son, Wisbech, staged a box of Early Victoria Apple, which was undoubtedly early and well developed. Messrs. Jas. Veitch and Sons, Ltd., exhibited boxes of their new Strawberry Lord Kitchener, a cross between British Queen and Waterloo, which was honoured by the Fruit Committee last July; also the yellow Superlative Raspberry, in shape quite like the well-known form.

A wonderful collection of culinary Peas was staged by Messrs. W. W. Johnson & Son, Ltd., Boston, which comprised 150 varieties, and the majority were in excellent condition; perhaps the best exhibit of this character ever staged in the hall. It was quite impossible to describe all the good sorts where so many were to be seen, but the following varieties seemed to be excellent:—Centenary, Oracle, Magnum Bonum, Triumph, Epicure, British Empire, Boston Unrivalled, Duke of Norfolk, Pioneer, Dickson's Utility, and Eureka.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); and Messrs. S. A. de Graaff, G. Nicholson, H. B. May, R. Dean, J. H. Fitt, W. Howe, J. Jennings, J. F. McLeod, C. R. Fielder, H. Selfe Leonard, J. W. Barr, G. Reuthe, G. Gordon, C. E. Pearson, E. H. Jenkins, C. E. Shea, G. Paul, C. T. Druery, J. Fraser, and J. Hudson.

Messrs. I. House & Son, Westbury-on-Trym, Bristol, staged a collection of hybrids of *Chrysanthemum maximum*. The best varieties were G. H. Sage, Mrs. Head (a gigantic form), Jas. Cocker, Moonlight, Filifera (a variety with divided florets), and Miss Henshaw (a pretty form). An interesting display of hardy flowers was contributed by Messrs. T. S. Ware, Ltd., Feltham, in which Lilliums, Gaillardias, Pinks, Carnations, Pentstemons, and rock plants formed the chief part. A pan of Nymphæas must not be overlooked, for it contributed a coolness to the display that was much appreciated on such a hot day.

Messrs. Barr & Sons, Covent Garden, also staged a choice display of hardy flowers, which included a capital collection of early Gladioli. The following varieties were noteworthy as being distinct and in good form—Palissot de Beaumaris, Cardinalis elegans, G. Ackerman, Little Lady, Crimson Queen, Prince of Wales, and Blushing Bride. The Pentstemons, Phloxes, Lilliums, Pinks, and Spiræas were all worthy of special note. Here also was displayed a pan of the new hybrid Nymphæas, with numerous other interesting hardy plants. From Messrs. Jones and Sons, Shrewsbury, came a collection of Sweet Peas in large bunches, which would have appeared to better advantage had some appropriate foliage been used. It is a mistake to stage this flower without consideration to artistic effect. The flowers, however, were all that could be desired. The best varieties were Baden Powell, Black Knight, Maid of Honour, Mrs. Dugdale, Lady Nina Balfour, Gorgeous, and Salopian.

Mr. Amos Perry, Winchmore Hill, contributed a large and choice exhibit of hardy flowers. The group was conspicuous for its brightness and admirable arrangement. Some of the most noteworthy were

Catananche bicolor, Campanula celticifolia, Heliopsis lævis major, Calochorti luteus, splendens, and Eldorado, Monarda didyma rosea, and a few good varieties of Phloxes. Sweet Peas and Violas came in force from Messrs. Dobbie & Co., Rothsay, and both sections were well represented. The Sweet Peas were particularly bright, most notable were Othello, Lady M. Currie, Prince of Wales, Golden Gleam, Aurora, Salopian, Eliza Eckford, and Mrs. Dugdale, while the Violas included most of the well known popular forms.

Perhaps the finest exhibit in flowers was that from Messrs. W. Paul & Son, Waltham Cross, which consisted of a splendid display of Roses, chiefly of the decorative types, which were arranged in baskets, vases, and also the orthodox boxes. The most striking were Perle d'Or, Madame Hoste, boxes of the new Hybrid Tea Tennyson, staged in grand form; Alexandra, Corallina, Sulphurea, Boadicea, a charming new Tea; Blushing Bride, and the well-known Crimson Rambler. From Messrs. Jas. Veitch & Sons, Ltd., came two small tanks of hybrid Nymphæas with numbers of fully expanded flowers. The varieties most striking were N. marliacea rosea, N. Leydekeri fulgens, N. L. rosea, N. m. albida, in excellent form; N. m. chromatella, and N. Robinsoni; a capital collection in a small compass. A very interesting display of cut Carnations was staged by Mr. Jas. Douglas, Great Bookham. The varieties included the grand yellow Cecilia, Sappho, Don Carlos, Boreas, Miss Violet, a beautiful yellow ground variety; Artemis, Golden Eagle, and Lanyan.

Mr. H. B. May, Dysons Lane Nurseries, Upper Edmonton, sent a large table of choice foliage plants, consisting chiefly of Crotons, Ferns, and Begonias, also a few plants of Campanula isophylla alba, and the new form Mayi, a grand decorative plant. The Crotons were deserving of special mention, the following varieties being conspicuous for their bright colours: Ruberrimus, Warreni, Newmanni, Thomsori, and Flambeau. A choice display of Lilliums and other hardy flowers was arranged by Messrs. R. Wallace & Co., Colchester, which included L. concolor (exceedingly bright), L. Browni, L. Krameri, L. longiflorum giganteum, and L. Thunbergianum Van Houttei; also Gaillardias in variety, Carnations of the border type, and a collection of Calochorti.

Messrs. Paul & Son, Cheshunt, were represented by a beautiful collection of Roses and Phloxes. The former section was made up of five bunches arranged naturally, which gave them a good effect. The varieties, Killarney, Jeanie Dickson, Golden Gate, L'Idéal, Muriel Grahame, White Maman Cochet, Clara Watson, J. B. M. Camm, Mrs. W. J. Grant, and Kaiserin Augusta Victoria were good. The Phloxes included some of the latest varieties, such as Evenement, La Siècle, Etna, Eclairer, Coquilicot, and Lord Rayleigh. Messrs. H. Cannell & Sons, Swanley, exhibited a good strain of double Poppies. The colours were varied as well as vivid.

A grand display of hardy flowers was arranged by Mr. E. Beckett, gardener to Lord Aldenham, Elstree, each bunch constituting a miniature flower garden, and the effect can be readily imagined. All were well grown and beautifully staged. Some of the best were Aconitum napellus, Centaurea macrocephala, Lillium Batemanni, Phlox Sakme, the old Martagon Lily, Alstromeria chilensis, Iris Kämpferi, Thalictrum majus glaucum, Lychnis Haageana, Gladiolus The Bride, and Malva moschata alba. Messrs. W. Cutbush & Son, Highgate, showed an effective group of Malmaison Carnations arranged with Palms, Ferns, and Dracænas. The Carnations included groups of Mrs. Trelawny, Mrs. Martin Smith, Mercia, Thora, Nautilus, Juliette, Lady Grimston, King Oscar, and Trumpeter. The groundwork of Ferns, with the Palms as dot plants, made a pleasing feature.

Mr. W. Rumsey, Joynings Nursery, Waltham Cross, arranged a pretty exhibit of cut Roses, in which the Teas predominated. Those arranged in bunches included good examples of Francisca Kruger, L'Idéal, Gustave Regis, Souvenir de Catherine Guillot, Ethel Brownlow, Princess Beatrice, Maman Cochet, and Bridesmaid, while the best in the boxes were Clio, Mrs. Rumsey, Earl of Dufferin, Countess of Pembroke, Marquise Litta, and Etoile de Lyon. A fine exhibit of double Begonias was staged by Mr. B. R. Davis, Yeovil. The blooms were simply splendid, and represented a great variety of colours. The Maidenhair Ferns employed for their embellishment added to the beauty. The most striking varieties were Mrs. Stothurt, Hilda, R. B. Parsons, Lucania, Orontes, Hercules, Albert Crousse, Orion, Regina Victoria, and Florence Nightingale. A fine group of Crotons from Mr. E. Beckett, gardener to Lord Aldenham, Elstree, attracted a large amount of attention from visitors, as well as from those persons who know a good Croton when they see one. The plants were in excellent condition and beautifully coloured, while the edging of Maidenhair Ferns and Panicum made a good finish. Mr. M. Prichard, Christchurch, staged large clumps of Heliopsis scabra major, Centaurea ruthenica, Campanula carpatia Riverslea, Cimicifuga americana, Lillium Browni, and Astilbe Silver Sheaf, a grandly grown clump. Mr. Key Allen contributed Sweet Peas in fine form.

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, de Barri Crawshay, H. J. Chapman, W. H. Young, H. A. Tracy, W. H. White, E. Hill, T. W. Bond, H. T. Pitt, E. Ashworth, J. Douglas, and J. T. Gabriel.

As has been stated, Orchids were comparatively scarce in numbers. Col. Brymer, Dorchester, contributed a magnificent plant of *Cœlogyne*



Fig. 15.—DOUBLE TUBEROUS-ROOTED BEGONIAS. (See page 58.)

Sanderiana; the flowers were not of particularly good quality. Messrs. F. Sander & Co., St. Albans, exhibited *Dendrobium Schröderianum*, splendidly flowered; with *Cypripediums* Haynaldo-Hookeræ, *A. de Lairesse*, Lord Derby, Lady Maple, and *Kimballianum*. Mr. G. Day, gardener to H. F. Symonds, Esq., Beckenham, arranged a really handsome group of Orchids, including *Lælias*, *Odontoglossums*, *Miltonias*, and others. Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, showed a collection of Orchids, the majority of which were of botanical interest.

The society arranged a collection of the paintings of Orchids that have been executed by Miss Roberts. These did not comprise the entire series to date, as sufficient space could not be granted for such a purpose, but they were none the less interesting. It is hoped that the whole will be shown on the occasion of the next meeting. Generally speaking, the paintings are admirable works of art, the colouration and form of the flowers being faithfully preserved. These paintings were most interesting, and form a valuable record of the new Orchids that have been exhibited before the Orchid Committee of the Royal Horticultural Society during the past three complete years.

Medals.

Fruit Committee.—Silver Knightian medals to Messrs. J. Cheal and Sons, Johnson & Co., and T. L. Pelly; and silver Banksian medals to Messrs. G. Norman, and J. Carter & Co. Floral Committee.—Silver-gilt Flora medal to Mr. E. Beckett; silver-gilt Banksian medals to Messrs. W. Paul & Son, and H. B. May; silver Banksian medals to Messrs. Jones & Sons, W. Cutbush & Son, Paul & Son, A. Perry, R. Wallace and Co., B. R. Davis, Barr & Sons, and Dobbie & Co.; bronze Banksian medals to Messrs. Key Allen, W. Rumsey, and G. Chandler. Orchid Committee.—Silver Flora medal to Mr. G. Day, and silver Banksian medals to Mr. W. H. White and Col. Brymer.

Certificates and Awards of Merit.

Angræcum flicorne (W. H. White).—A pure white flower of chaste beauty (award of merit).

Campanula carpathica Riverslea (M. Prichard).—A superb variety of a well-known type (award of merit).

Carnation Major Harbord (W. Allan).—A pure yellow scentless variety of good form (award of merit).

Carnation Midas (J. Douglas).—A beautifully formed border variety with orange-buff coloured flowers (award of merit).

Carnation Bomba (J. Douglas).—A rose coloured variety with splendid petals (award of merit).

Carnation Benbow (J. Douglas).—This variety has well shaped flowers of a pale buff shade (award of merit).

Cypripedium Rothschildo-Lawrenceanum (W. H. White).—A striking hybrid. The immense dorsal sepal is green, with brown stripes. The sepals are green, with brown spots. The pouch is claret (award of merit).

Delphinium Blue Butterfly (J. Carter & Co.).—A dwarf-growing annual variety with intense blue flowers (award of merit).

Masdevallia d'Orsa (F. W. Moore).—This is a most distinct plant, having pendulous leaves about 12 inches long. It is always found growing downwards in its native habitat. The tails of the sepals are 3 inches long, yellow at the apex, becoming spotted with purple towards the broad cup-like portion; the latter is yellow spotted with deep purple. The small petals are greenish white. The lip is rich crimson with a batch of raised bristles at the apex (award of merit).

Maxillaria scurris (W. H. White).—An exceptionally spreading flower. The basal colour of the sepals is brown, with white at the lower portion and large brown blotches. The petals are practically of the same hue (first-class certificate).

Nymphæa Leydekeri fulgens (J. Veitch & Sons).—A very intense crimson coloured variety of good form (award of merit).

Nymphæa stellata pulcherrima (J. Hudson).—A superb variety of a magnificent *Nymphæa* (award of merit).

Nymphæa mariacea rosea (J. Hudson).—A chastely beautiful soft rose coloured variety of great size (award of merit).

Odontoglossum coronarium (F. W. Moore).—A yellow form of a well-known Orchid (award of merit).

Phaius oakwoodiensis (N. C. Cookson).—The sepals and petals are deep rose, and the lip dull crimson. It is strikingly handsome (first-class certificate).

Raspberry Yellow Superlative (J. Veitch & Sons).—This is admirably named, for it is essentially a yellow fruited *Superlative*. The plant is a particularly strong grower (award of merit).

Rose Souvenir de Catherine Guillot (W. Paul & Son).—A chastely beautiful Tea Rose. The colour is rose buff (award of merit).

Californian Prunes.—It is stated that the Prune harvest of California last year was 110,000,000 lbs. Of that crop some 7,000,000 lbs. still remain on hand. The preliminary estimate points to a crop for the present year of about 125,000,000 lbs.

Wolverhampton Floral Fête.

July 10th, 11th, and 12th.

THE twelfth annual show was held in the West Park on the above dates under the most favourable auspices, especially as regards the weather, though the heat was at times almost overpowering. As an instance of the successful career of the society it may be remarked that since its inception the profits have amounted to no less than £5460. The prizes this year had been increased to £700, and the classes, comprising 113, were augmented by five altogether new ones—in Roses, pot Roses, floral displays, and hardy herbaceous cut flowers, also a most important one for Orchids—viz., prizes of £10, £8, and £6 for collections occupying spaces 12 feet by 5 feet.

Groups and Plants.

For a group arranged for effect, not to exceed 450 square feet, the first prize of £20 was secured by Mr. James Cypher, Cheltenham, with a beautiful composition. The present example was in some respects an advance on previous ones, chiefly as regards the wealth and richness in colouration of the ornamental foliage plants, and the abundance of Orchids surmounting and depending from the four rustic cork bark arches extending from the corners of the parterre towards the centre-piece. The second prize group arranged by Mr. V. H. Macdonald, gardener to G. H. Kenrick, Esq., Edgbaston, was lighter in appearance, and was pronounced by an eminent judge to be the "best second" he had ever known. It may be remarked that both of the exhibitors in question employed with pleasing effect in the respective four raised corner mounds of their designs that old-fashioned *Marjoram* (*Origanum hybridum*) with its Hop-like inflorescence. The third prize was deservedly awarded to Mr. W. Vause, Leamington, with an arrangement somewhat similar to the premier exhibit.

Mention may here be made of the large collection of gigantic plants of highly coloured *Caladiums*, exhibited in the same marquee, by Mr. A. Webster, the Park Curator. The group was edged with *Begonias*, *Ferns*, and other ornamental foliaged plants, and a large gold medal was awarded for the display. In the class confined to gentlemen's gardeners and amateurs for a group of plants arranged for effect, not to exceed 350 square feet, there were only two competitors, the first prize being awarded to Mr. Richard Sharpe, gardener to Henry Lovatt, Esq., Lowhill, Bushbury, for a highly creditable arrangement, defeating Mr. Alfred Cryer, gardener to J. A. Kenrick, Esq., Edgbaston. In the smaller divisions, not exceeding 200 square feet, there were several creditable exhibits.

For sixteen stove and greenhouse plants, not less than eight in bloom, distinct (Orchids excluded), Mr. Cypher proved the champion with a collection remarkable for its freshness as well as for bloom, and conspicuous amongst which were a very large and profusely flowered specimen of *Phenocoma prolifera* Barnesi, a magnificent *Stephanotis floribunda*, a fine *Erica ventricosa* Bothwelliana, and beautifully flowered examples of *Allamandas nobilis* and *Hendersoni*, *Ixoras regina* and *Williamsi*, *Statice profusa*, *Clerodendron Balfourianum*, *Bougainvillea Sanderiana*, and *Anthurium Scherzerianum*. The second prize was given to Mr. W. Vause for a fairly good exhibit, and the third to Mr. Finch, Coventry.

Six Exotic Ferns, distinct, were very finely exhibited by Mr. Macdonald and Mr. R. Sharpe respectively. Six Palms, distinct, Messrs. Cypher, Macdonald, and W. Vause were placed in the order named for very fine specimens. Six plants in flower, distinct, Messrs. Cypher and W. Vause were the winners with good examples. Six fine-foliaged plants were also well shown by Messrs. Cypher, W. Finch, and W. Vause, as in order named.

Orchids.

Another fine feature were the two exhibits in the new class for a collection, of any number of plants, occupying a space 12 feet by 5 feet. The first prize of £10 was worthily awarded to Mr. Cypher for the finest display of Orchids yet exhibited at Wolverhampton. The only other exhibitor was the firm of Messrs. Jenkinson & Son, Newcastle-under-Lyme, with also an excellent exhibit. In the class for eight Orchids, distinct, Mr. Cypher was again to the fore with fine examples of *Lælia purpurata*, *Epidendrum prismatocarpum*, *Oncidium macranthum*, *Cattleyas Mendeli grandiflora*, *Harrisonæ*, and *gigas*, *Cymbidium Lowianum*, and *Lælia tenebrosa*. The second prize was awarded to Mr. Macdonald for a very good display. For six Orchids, distinct, the first prize was awarded to Mr. Macdonald, who was the only exhibitor.

Roses.

As might be anticipated these were a leading feature, being extremely and exceedingly well shown. In the class for seventy-two distinct varieties the coveted prize was taken by Messrs. A. Dickson and Sons, Newtownards, Ireland, the collection containing many superb blooms. Mr. B. R. Cant, Colchester, was a good second, and Messrs. Harkness & Sons, Hitchin, third. An extra prize was awarded to Messrs. D. Prior & Sons, Colchester. For forty-eight distinct varieties Messrs. A. Dickson & Sons retained the premier position with a splendid display of bright and fresh blooms. Messrs. James Townsend & Sons,

Worcester, followed closely. For eight trebles, distinct, Messrs. A. Dickson & Sons contributed a grand collection, and were awarded the first prize. The varieties included Bessie Brown, Mrs. Mawley, Marquise Litta, Alice Lindsell (new), Mrs. Conway Jones, Mildred Grant, Gustave Piganeau, and Her Majesty. The second prize was taken by Mr. John Mattock, Oxford; the third by Messrs. Harkness and Son; and the fourth by Mr. B. R. Cant.

For twelve bunches of Roses, distinct, the first prize was won by Mr. John Mattock with a charming assortment in fine condition. Messrs. Townsend & Sons were second, and Mr. J. H. White, Worcester, third. In the class for twelve new varieties of 1897, 1898, and 1900, the first prize and gold medal were won by Messrs. A. Dickson & Sons, and the second prize by Mr. B. R. Cant. For twenty-four distinct varieties Messrs. J. Townsend & Sons and Mr. J. Mattock were the respective winners with very good blooms. For twelve of any light variety Messrs. A. Dickson & Sons secured the first prize with grand examples of Bessie Brown (Tea). The second prize went to Messrs. Townsend and Sons for fine blooms of Mrs. John Laing (H.P.), and the third to Messrs. Harkness & Sons with the same variety. For twelve dark coloured blooms, one variety, Messrs. Townsend & Son were victorious with Marquise Litta. Messrs. Prior & Sons second with Captain Hayward, and Messrs. A. Dickson & Sons third with Marquise Litta. For twelve Teas, distinct, Messrs. J. Townsend & Sons were placed first with exquisite blooms. Messrs. J. Mattock and D. Prior & Sons were second and third respectively with good examples.

Cut Flowers.

In the collections of decorative plants and bunches of cut flowers arranged for effect, in a space not exceeding 6 feet by 4 feet, Mr. W. Finch was awarded the first prize; Mr. J. F. Simpson, gardener to C. T. Mander, Esq., the second; and Messrs. Jones & Sons, Shrewsbury, the third. Arrangements of hardy border flowers were shown by Messrs. R. Wallace & Co., Colchester; Messrs. Harkness & Son; Mr. A. Perry; and Messrs. Gunn & Son, Birmingham. In the class for a display of plants or floral decorations, the first prize was won by Mr. J. H. White, Worcester; and the second by Mr. J. E. Knight, florist, Wolverhampton. Carnations and Picotees were not extensively shown. In the former classes Messrs. Thomson & Co., Birmingham, took the lead, the second position being occupied by Messrs. Pemberton and Son, Walsall. Laced Pinks were beautifully shown by Messrs. Pemberton & Son and Messrs. Thomson & Co. Sweet Peas were a striking feature. In an arrangement for effect Messrs. Jones & Son, Shrewsbury, were placed first, and Messrs. Gunn & Son received the second prize. For eighteen varieties Messrs. Jones & Sons were again first, and Mr. V. B. Johnstone, The Wergs, Wolverhampton, second.

Fruit.

The finest show of fruit yet exhibited at Wolverhampton was on the present occasion. For a collection of eight dishes, Pines excluded, Mr. J. Doe, gardener to Lord Savile, Rufford Abbey, secured the first prize with three large bunches of well coloured and finished Madresfield Court, three bunches Muscat of Alexandria, very good; Sutton's Scarlet Melon, Brown Turkey Figs, Barrington Peaches, very fine; Royal George Peaches, Lord Napier Nectarines, and fine Bigarreau Cherries. The second prize fell to Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle; and the third to Mr. T. Bannerman, gardener to Lord Bagot, Blithfield Hall, Staffs.

For four bunches of Grapes, two black and two white, the first prize was awarded to Mr. J. Doe for medium sized and compact bunches of well ripened and coloured berries of Black Hamburg and Muscat of Alexandria Grapes. Mr. F. Jordan, gardener to John Corbett, Esq., Impney Park, Droitwich, was placed second; and Mr. T. Bannerman third. For two bunches of white Grapes Mr. S. Bremmell, gardener to H. H. France-Hayhurst, Esq., was first with large shouldered bunches of Muscat of Alexandria. Mr. J. Doe was placed second with the same variety; and Mr. B. Ashton, gardener to the Earl of Lathom, was third. For two bunches black Grapes Mr. J. Doe annexed the first prize with Madresfield Court; Mr. B. Ashton was second; and Mr. T. Bannerman third. Melons were numerous shown by Messrs. F. Jordan; W. Pope, gardener to the Earl of Carnarvon, Highclere Castle; Alexander Henderson, Esq.; T. Bannerman; J. Read, gardener to the Earl of Carnarvon, Bietby Park; and T. Somerford, gardener to the Earl of Shrewsbury, Temple Newsham, Yorks.

Peaches and Nectarines were admirably coloured and large. The first prize was awarded to Mr. B. Ashton for Grosse Mignonne Peaches, and the second to Mr. T. Bannerman with Royal George. For a dish of Nectarines Mr. J. Read was placed first, Mr. J. F. Simpson second, and Mr. F. Jordan third. Strawberries were not numerous exhibited, but were of fine size. The first prize for three dishes fell to Mr. S. Postings, The Gardens, Rudge Hall, with Royal Sovereign, President, and Waterloo. The second prize went to Mr. W. Cluck, gardener to Herbert Thelluson, Esq., Dorchester, for Royal Sovereign, James Veitch, and Scarlet Queen; and the third to Mr. B. Ashton. In the class for six dishes of miscellaneous fruits, Pears excluded, Mr. T. Bannerman was first, Mr. F. Jordan second, and Mr. J. H. Goodacre third. Vegetables were exceedingly well shown, and characterised chiefly by the almost universal medium sized specimens.

Non-Competitive.

Large gold medals were awarded to Mr. A. Webster for Caladiums; and to Messrs. J. Veitch & Sons, Chelsea, for a group of plants. Small gold medals to Mr. F. Davis, Pershore, for a collection of double-flowered tuberous Begonias, a feature of the show; the plants were small, producing about a single flower stem each, and the bloom of splendid quality; and to Messrs. Webb & Sons, Stourbridge, for an extensive exhibit of fine Gloxinias, Begonias, and vegetables. Large silver medals to Messrs. Hinton Bros., Warwick, for a large collection of Sweet Peas, to Messrs. Birkenhead for a collection of Ferns, and to Messrs. Dickson, Chester, for cut flowers. Small silver medals to Messrs. Patterson for Violets, and Peed & Sons for Begonias. Bronze medals to Mr. R. Sydenham for floral decorations, to Messrs. Thomson and Son for a collection of plants, to Mr. R. Lowe, Wolverhampton, for plants and cut flowers, and to Mr. C. Barratt for Ferns. Much credit was due to Mr. Barnett, the secretary, and his assistants for the excellence of the arrangements.



Hardy Fruit Garden.

Apples and Pears.—Trees of restricted form, also low standards and bushes of average size, may readily have the fruits thinned. Most trees are carrying a heavy crop, and it will be advantageous to reduce the number to a fair crop, not only so as to be able to secure fruits above the average in size and quality, but as a relief to the trees, which under an extra burden are liable to be weakened. In all cases a number of fruits naturally fall off the trees about this time, but this should be supplemented by artificial thinning. Remove first small and ill-formed fruits, and those inconveniently placed for swelling, gradually reducing the remainder at two or three thinning operations. Mulchings of manure over the roots, and applications of liquid stimulants will materially assist in the development of the fruit. Continue the summer pruning of the side and foreright shoots, shortening strong shoots to five leaves and the weaker to four.

Plums.—If suckers are troublesome in springing from the roots of wall and other forms of Plum trees, they ought to be cut out from the roots as cleanly as possible. Digging them up roughly causes the appearance of fresh growths in increased number the following season. The foreright or side shoots which have extended the present season will, if not previously shortened, require cutting back to five leaves, including those at the base, which are small. Should vacancies occur on walls occupied with trained Plum trees they may be filled by training in a convenient side shoot, allowing it to extend and grow vigorously under full exposure to light and air. This will in time prove to be fruitful its entire length. Standard Plum trees require no shortening of shoots either in summer or other seasons. The main point in their management is to keep the branches well thinned. This may be carried out when the crop has been gathered.

Sweet Cherries.—The management of the growth on restricted trees is the same as for Plums. If standard Cherries are properly trained at the outset of their career little or no pruning is necessary after, very little superfluous wood being made. The fan-shaped form of training is best for walls, as should a branch become exhausted or fail suddenly, it is possible to fill its place with a young growth which, without any pruning, pinching, or other manipulation other than giving plenty of space and exposure to light, will in time bear fruit freely.

Morello Cherries.—These Cherries are chiefly trained on walls and allowed to produce young wood freely. A selection of these must now be trained in all over the trees about 3 inches apart. The bearing growths will eventually be pruned out, the current season's wood or succession growths taking their place. The trees usually produce more shoots than can be trained in, hence the bulk of those intended to be retained should be selected from those originating at the base of the present bearing growths. The surplus may be shortened to form spurs, but where it is inconvenient to do this cut out entirely. Ripe Morello Cherries hang well on the trees, but the fruit should be protected by nets.

Outdoor Vines.—Vines will succeed outdoors on warm walls, but there must be no crowding of growths. Laterals are best restricted, pinching them early two joints beyond the bunches of fruit. The berries must be thinned, and the number of the bunches confined to one on each growth, and one growth on a spur. Sometimes two of the latter may be left, but one is not allowed to fruit. Syringing the foliage will do good in warm weather, and due attention should be given to maintaining the roots moist where the soil is poor and dry, or

the position naturally deficient in moisture. Liquid manure will assist Vines carrying a full crop.

Outdoor Figs.—Allow all young shoots for future bearing to be fully exposed to light, leaving them at full length. The bearing shoots may be stopped several leaves above the fruit. Disbud or rub out sappy shoots starting from the old wood, as such growths do not make fruitful shoots.

Red and White Currants.—If the side shoots on the main branches are reduced to three pairs of leaves plenty of light will be admitted to the fruit to complete ripening, and the vigour concentrated on the basal buds, which can also receive light and air.

Black Currants.—Young strong growths are the best for fruiting, and these may be left their entire length, cutting out the shoots that bear the fruit when the crop has been gathered; mulching over the roots and applying liquid manure are beneficial.

Raspberries.—The strongest growths may be retained for the future bearing canes to the number of four or six to each stool or clump. Cut out the old growths after fruiting.

Blackberries.—Mulch and water to encourage free development of the fruit, and the production of long shoots for the succeeding season. Secure them in a good position in order that they may become well ripened, and not be injured by wind.

Preparing Soil for Strawberries.—When establishing a new bed of Strawberries it is important that the ground should be thoroughly well trenched and manured either at the present time or for a previous crop. It is better to plant on a new site rather than dig over and occupy the same position again, as the plants naturally exhaust the soil. Decayed cow manure should be incorporated with light soil, and decomposed horse manure for soil of a heavier character. Bastard trenching is a safe plan of deep cultivation, as the fertile top spit is not buried below and a hungry subsoil brought to the surface.

Fruit Forcing.

Vines.—*In Pots for Early Forcing.*—Those intended for starting at the beginning of November to afford ripe Grapes late in March or early in April should by this time have completed their growth, and be given no more water than will prevent the foliage from becoming limp, exposing them to all the light possible, so as to thoroughly ripen the wood by concentrating the juices in the buds and canes, as is done under the dry régime. Keep the Vines free from red spider and thrips, as it is important that the leaves perform their functions to the last. After the wood becomes brown and hard the Vines may be stood on a board or slates in front of a south wall, securing the canes thereto to prevent damage by wind. If the canes do not ripen well keep the Vines in the house with a temperature of 85° to 95° by moderating the ventilation, and admit air freely at night.

Early Houses.—The Vines cleared of their crops will require a comparatively dry atmosphere to ripen the wood, but it will not be necessary to employ artificial heat to insure the requisite warmth, as that can be effected by regulating the ventilation according to the weather. Avoid, however, a close atmosphere, especially at night, which would have the effect of inducing lateral growths that must be restrained, keeping the laterals and all late growths well in hand, seeking complete maturity in the wood and buds by keeping the house cool and dry. In the case of Vines that have lost the lower leaves on the bearing shoots through attacks of red spider or other causes, moderate extension of the laterals is desirable, so as to retain some growths on the Vines, and prevent the concentration of the sap on the dormant buds to the extent of starting them into growth. With an outlet for the sap, such as that afforded by laterals above the pruning buds, premature growth will be prevented, whilst the buds and wood profit to some extent by the assimilation and storing of food.

A drier condition of the soil is also desirable, but it must not become parched and cracked, which will not occur if the border has been properly mulched or the surface kept loose. An inch or a little more thickness of sweetened lumpy manure, or that depth of loose soil, conserves the soil moisture, whilst not depriving it of air. If needed, water must be supplied to keep the soil so moist as to preserve the foliage in health, and this must be kept clean by occasional syringing, or the prompt application of an insecticide.

Muscats Ripening.—These require time and assistance from fire heat to ripen perfectly. A night temperature of 65° is imperative, and that of the day should be 70° to 75° in dull weather, and with sun 85° to 90° be secured by judicious regulation of the ventilators, yet having due regard to a free circulation of air. This is imperative to prevent spotting, a little air being admitted constantly to prevent the deposition of moisture on the berries, increasing it early in the day, so that the Grapes may become warmed correspondingly with the atmosphere, and be kept exhaling. Muscats require a rather dry warm atmosphere. They also need plentiful supplies of water when swelling and in the early stages of finishing their fruit.

Late Houses.—Late Grapes intended to hang all the winter should have a final thinning, removing the smallest berries, and where too crowded allow every retained berry full space for development. As a rule late Grapes should be more severely thinned than early and mid-

season ones, yet leaving sufficient berries to form symmetrical bunches, such as will retain their shape when dished and have a good appearance. Inside borders must be kept well supplied with water, afterwards following with liquid manure, or a top-dressing of some artificial manure, and wash in moderately. A light mulching of partially decayed lumpy manure will lessen the necessity for water, attracting the roots to the surface, and nourishing them. Outside borders must have attention for watering, feeding, and mulching as circumstances require. Regulate the growths as needed, adopting the extension rather than the restrictive system where there is room for it without crowding, keeping gross laterals stopped, so as to cause an equal flow of the sap throughout the Vines. As the period when scalding occurs is at hand it will be necessary to guard against it by increased night temperature, or 65° to 70°, and abundant ventilation, so as to reduce the atmospheric moisture or prevent the air heating more rapidly from sun heat than the berries. After the berries commence to colour danger from scalding is, for the most part, past, then the fire heat may be economised by reducing the ventilation early, so that the sun may raise the temperature to 90° or 95° on fine afternoons.

Young Vines.—Those of this season's planting should, provided the light is not too much obstructed, be allowed to grow unchecked, it being presumed that they are to be cut back to the bottom of the trellis, or to three buds at the winter pruning; but the laterals must not be allowed to interfere with the leaves that feed the buds at their base expected to fruit next season. Supernumeraries intended for next year's fruiting may be regularly stopped at a length of 7 or 8 feet, pinching the laterals to one leaf as made, except those from the upper part of the canes, which at the first stopping should be allowed a little more latitude. When growth is completed the laterals ought to be gradually removed, taking care not to start the main buds, so as to insure the thorough ripening of the wood. Afford water liberally, mulching and keeping the border moist, so as to encourage surface roots. Maintain a moist atmosphere by frequent sprinkling of the paths and borders, and syringe the Vines on fine afternoons, closing early to attain a heat of 90° to 95°. Ventilate freely through the early part of the day to insure a short-jointed thoroughly solidified growth.

Cucumbers.—The plants should be looked over twice a week for thinning the growths as occasion requires, it being easy to rub off a starting shoot in the wrong place or for which there is not room, and the fruits of unruly growths may be nipped off without prejudice. Cut out exhausted growths to make room for young bearing shoots. Keep the shoots well stopped to one joint beyond the fruit, or at the fruit if the plants are vigorous and showing no signs of exhaustion. Remove bad leaves as they appear, always having an eye to the first speck of abnormality on the foliage, whether caused by red spider, thrips, white fly, or mildew. These pests have an abhorrence of sulphur, especially the fumes, which are given off more or less under the solar heat acting on surfaces coated with flowers of sulphur. Mildew spores are just now very abundant in the atmosphere; have an eye, therefore, to Cucumber plants, preferably dusting a little sulphur on the plants, or where the sun can act on it, as a precautionary measure. Aphides are also attacking in some cases, for which and thrips fumigation with tobacco paper, or vaporisation with nicotine compound, on two or three consecutive evenings, are the best remedies.

Cucumbers like a long range of temperature, 65° to 70° at night, 75° by day, 85° to 90° with sun, closing early to maintain the latter, or even increase to 95° or 100°. Syringe sufficiently early in the afternoon of hot days for the foliage to be dry before sunset. Commence ventilating early, it being important that the foliage be dry before the sun acts powerfully upon it. Shade so as to prevent scorching and flagging. The plants for autumn fruiting should now or soon be placed on hillocks or ridges moderately firm, maintaining a moist genial atmosphere, and they will soon grow sturdily and show fruit abundantly.

The Kitchen Garden.

Cabbage.—There are few more important crops than spring Cabbage, and the present is the time to take the initial step in their production. To have them really early the plants must be raised in July or the first fortnight in August. Varieties of Wheelers' Imperial, Ellam's Dwarf Spring, and Early Offenheim are among the most reliable. Free working, but not rich or "stale," open plots are most suitable for the purpose, and sowing thinly in drills 4 inches or more apart the most economical plan.

Carrots.—An all-the-year-round supply of young Carrots never fails of appreciation. Seed sown now of stump rooted varieties should result in a bountiful supply of tender roots next autumn and winter, or till they are available from hotbeds and frames. Preference should be given to free working soil manured for a preceding crop, say of early Peas, Lettuce, or Cauliflowers, a warm border convenient for protecting with strawy litter in hard weather answering best.

Endive.—Now is the best time to sow seed of the Green Curled and Batavian forms of Endive in quantity. The plants cannot well be grown too large if well blanched hearts nearly equalling good Lettuce are desired next autumn and winter. The seed may be sown where a portion of the resulting plants are to attain to their full size, or in seed

beds, transplanting taking place in due course. An economical practice is to sow a fairly large breadth of ground, arranging the drills 6 inches apart, and sowing thinly. When the plants are large enough to move there will be more ground available, and they may be put out 10 inches to 12 inches apart in rows 12 inches apart. The plants left will press against each other, closing up accordingly, and abundance of well blanched hearts be obtained for early consumption without any further trouble.

Late Beans.—A few late gatherings of Kidney Beans are frequently most acceptable. In order to obtain these seed should be sown at once on a warm border, where protection can be afforded the plants as need be. Syon House and Canadian Wonder are varieties that can be recommended for this purpose, sowing the seed in drills 18 inches apart.

Turnips.—That excellent Turnip Chirk Castle Black Stone must be sown at once if the roots are to attain to a good serviceable size before the winter, and the same remark applies [to Orange Jelly or other extra hardy late sorts. These do not form much top growth, and may be sown thinly in drills 15 inches apart. The best roots are grown on firm rich ground. If the soil is somewhat poor soak the drills with liquid manure prior to sowing the seed.

THE BEE-KEEPER.

Work in the Apiary.

WHEN honey is coming in freely and the weather continues bright for several days together the bees delay the sealing over of some of their stores in their anxiety to secure a surplus. During a spell of dull weather the honey is sealed over, and if allowed to remain in the hive for many days before being removed the cappings will become discoloured, owing to the bees constantly passing over the combs. This should be avoided, if possible, by removing all supers as soon as they are ready. Often at this season the cells round the outside of the sections will contain honey not sealed over. When this is the case they should be placed in the upper crate, and the bees will remove the honey into other cells. The crates of partly sealed sections should always be placed on the top. Crates of sections filled with foundation or guide comb should be placed underneath. This will have the effect of keeping the combs clean, and the bees will draw out the newly added comb at a rapid rate.

Stocks worked for run honey should also have attention by extracting the honey as soon as it is ripe. This is usually the case when each comb is about three parts sealed over. The queen must not be allowed in the supers, or the combs will be spoiled for extracting purposes until the brood is hatched out. It will then be too late, as the honey harvest will probably be over. The queen may easily be kept in the lower chamber by using excluder zinc. This should be placed carefully over the top of the frames, otherwise the queen will pass through any vacant space.

Introducing Queen Cells.

We explained in previous notes how we utilised a certain number of stocks for raising young queens. It is now a good time to form nuclei hives for as many queens as are required. The stocks that were robbed a few weeks ago of part of their combs, and many of the bees for strengthening those intended for extracting purposes will now have become strong in bees. The hives, too, will be nearly filled with frames of brood. They will thus be in the best possible condition for rearing queens. We will presume a strong colony of bees have been rendered queenless by removal of the queen. The combs, too, were at the same time prepared for queen cells. There will now be numerous queen cells ready for removal.

The stocks should be divided into as many nuclei as are required. The queen should be removed from each colony before it is divided, otherwise the queen cell would be destroyed before it had been in the hive many hours. If a comb has only one queen cell on it, the comb and the adhering bees may be lifted out and placed between the frames of brood in the nucleus. The division board is closed up, and the bees are not disturbed for at least a fortnight. Other queen cells may be removed with a knife, about 2 inches of comb being taken with it. This will be found useful to hold the cell in position, either by pressing it into the comb which is to receive it, or by using a small skewer of wood, which will answer the purpose. The queen cell should always have its point hanging downwards in the same position it occupied in its original comb. Care must be taken that there are sufficient bees in each nucleus live to cover the brood.—AN ENGLISH BEE-KEEPER.



- All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *noms de plume* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Grub Infesting Potatoes (Boothby).—The grub was so dried and smashed as to be beyond recognition, and from the conformation of its mandibles does not appear a vegetable feeder, but a carnivorous creature. Send specimens carefully packed, and we will do our best to determine the species, though this is somewhat difficult in the case of uncommon species, it being necessary to rear them to the perfect stage.

Strawberries Diseased (B. E.).—There are no traces of insects, but the fruit or some of them appear to have been nibbled, perhaps by the red field vole (*Arvicola glareolus*). For this pest we have found the small steel spring traps, commonly called "bird," baited with cheese and set in their haunts, effective. But the Strawberries are badly infested with white mould fungus (*Botrytis vulgaris*) owing to wet weather. The fungus has probably been introduced in the straw, and by the wet period. Remove all the damaged fruits and cut off as much of the top of the plants as can well be spared, burning the whole along with any rough remains of the straw. Then when cool enough spread the ashes on the ground evenly all over the plants, and dress with quicklime slaked with the smallest quantity of water necessary to cause it to fall into an apparently dry fine powder, distributing over the plants at the rate of 14 lbs. of the unslaked lime per rod. In the autumn or early in the spring the dressing of lime may be repeated.

Packing Peaches (T. G. F.).—Mr. W. H. Divers, Belvoir Castle Gardens, an experienced grower, describes his method of packing as follows:—"The Peaches must be gathered as soon as they begin to feel soft at the base, and then sent to market (or their destination) as quickly as possible. They require very great care in handling, or they show every finger-mark in a short time, and only realise very low prices, or arrive in an unsatisfactory state. For marketing the fruit the salesmen generally supply boxes about 3 inches deep that will hold about two dozen in one layer. Each fruit should have a strip of white tissue paper wrapped round the sides so as to cover the lower half of the fruit. A twist at the bottom after wrapping it round will help to keep it on. Strips of cotton wool about 1½ inch are then cut across the piece and opened out from one end, so as to form a strip of wadding about 2½ feet long and 1¾ inch wide. This is carefully rolled round each fruit as many times as it will go over the tissue paper. The boxes should be lined with cotton wool inside, and the Peaches placed in them closely together as they are wrapped. When the box will hold no more small pieces of wadding may be gently pushed in the corners of the package and wherever there is room, so as to make all secure and prevent any movement of the fruit. If they are packed in the way I have described they should now be firmly in the boxes with nothing around the upper half of the fruit, so that everyone can see their size and colour when offered for sale. A sheet of tissue paper must next be laid over them, and then one or two pieces of wadding, the same size as the box, so as to fill up and prevent any movement when travelling. Packing Peaches requires great care, but pays for all the attention bestowed upon it. I have adopted this system for several years past, and had no complaints from anyone about damage, although some of the fruits have travelled 400 to 500 miles. There is no system equal to it, although moss, dried grass, and other things are sometimes recommended. The table on which the packing is done should always have a strip of wool on it to lay the fruit on. Peaches will keep several days if laid on some dry and soft material in a cool and dry room."

Rust on Asparagus (*A. G. G.*).—As you do not mention the page on which the preparation recommended for the cure of rust in Asparagus appeared we are unable to refer to it, hence cannot tell where it may be obtained and affirm as to its efficacy. The article on Asparagus disease, by Mr. Abbey, appeared in the *Journal of Horticulture*, November 14th, 1895, page 452. The treatment therein set forth has proved very satisfactory, the preventive procedure being the only one of material use, the liquid or Bordeaux mixture acting better than dusting with the preparations containing sulphate of copper.

Wireworms Infesting Newly Broken Up Ground (*W. W.*).—When the ground is cleared of the crops it may be dressed with fresh gas lime, applying half cwt. per rod, 4 tons per acre, spreading evenly on the surface, and leaving for a month or six weeks. Before digging in the manure may be applied. If inconvenient to use gas lime, dress the land with mustard dross, $1\frac{1}{2}$ cwt. per acre, it being distributed evenly over all the ground and left for the rain to wash in. It can be used after the ground has been manured and dug, but is preferably applied to the surface some time in advance, as with the gas lime. Another dressing is that of kainit, 5 cwt. per acre, this being applied after the ground has been manured and dug, and of the three is the most beneficial to the crops that are to be taken, and is still more so if basic cinder phosphate be also applied, 10 cwt. per acre. The combined dressing has considerable manurial value, and is good against pests. The handsome Melon is most promising in flavour, and has great depth of scarlet flesh.

Diseased Stems and Leaves of *Lilium candidum* (*Anxious*).—The specimens are badly infested with a minute fungus, *Botrytis vulgaris*. The plants may be sprayed with a solution of potassium sulphide, commonly called liver of sulphur, 1 oz. to three gallons of water, but this will only prevent the disease spreading. Black bodies about the size of Radish seeds are imbedded in the scales of the bulbs. Such bulbs should be destroyed. Good results, however, have followed steeping the bulbs for half an hour in a solution of corrosive sublimate, 1 oz. to $6\frac{1}{2}$ gallons of water. The article is a terrible poison. If you prefer the bulbs may be steeped a similar time in potassium sulphide, $\frac{1}{2}$ oz. to a gallon of water. As a disinfectant for the land use gas lime, $\frac{1}{2}$ cwt. per rod, leaving on the surface a month or six weeks before digging in. The *Lavatera* is affected with the same disease as the *Liliums*, and the seedling *Carnations* are infested with spot fungus. Spray them with a solution of sulphide of potassium, 1 oz. to 3 gallons of water, give more air, or the plants more room.

Leaves of Vines Turning Yellow (*T. M. H.*).—The leaf is not affected by any parasite, but appears thin in tissue and indifferent in green colouring matter or chlorophyll. Possibly this may have arisen from defective nutrition, and that in two ways—one by the roots being attacked and more or less injured or destroyed by the larvæ of insects or allied pests present in the turfy loam, a not unusual occurrence, and one commonly overlooked. The other is that of the soil not yielding the nutritive elements sufficiently fast for the requirements of the Vines, or from there being some deficiency in the constituents. As you do not appear to have used any manure or other fertiliser supplying nitrogen, and this being the most important factor as regards growth, though others are essential or must be present, we advise a top-dressing of the following mixture:—Superphosphate of lime, nine parts; nitrate of potash, five parts; and sulphate of lime, seven parts, mixed, using 4 ozs. of the mixture per square yard, pointing very lightly, or if the surface be rather rough work in moderately, having previously made the soil moist by the required watering. In the course of a fortnight apply a dressing of soot and air-slaked lime in equal parts by measure, using half a pound of the mixture per square yard and pointing in lightly. Soot is an excellent article for giving colour and health to the foliage, and the lime acts well on the organic matter of the turfy loam. It would also be advisable to allow the laterals to extend a little as an incitant to root action, but not allowing them to interfere with the light to the principal leaves.

Renovating Bowling Green (*W. K.*).—Constantly brushing lawns, except in late autumn and winter, is not good. Applying sand will have no beneficial effect, but bone dust, wood ashes, soot, and fine loam ought materially to benefit the turf, especially when a dressing is given during the spring months. The plan that ought to have been followed earlier in the season, say about February, consists of going over the turf with an iron rake to loosen the surface and clear away any moss that might exist, pulling out or digging up all coarse weeds. Then apply a dressing of thoroughly decayed manure and fine loam, spreading it over the entire surface. After several weeks rake the surface again, and sow a good dressing of soot. In April the residue should be raked off, and the entire lawn left smooth and even ready to receive a sowing of renovating lawn seed at the rate of 1 bushel per acre. Spread a light sprinkling of fine soil over and roll at once, but the weather should be dry. It is late now to follow this plan. The next best plan adapted for the present time, especially during moist weather, would be to give a dressing of 1 oz. of nitrate of soda and 2 ozs. of superphosphate to the square yard, or a dressing of the best Peruvian guano, 1 oz. to the square yard. Shortly after either of these dressings sow some fine grass seeds at the rate mentioned above. We would recommend these methods before lifting the turf as suggested. Any good seedsman will supply a proper mixture of lawn seeds for the purpose. It will be necessary to keep the soil moist if dry weather sets in, so that the seeds may germinate. Do not cut the grass so

closely. Set the machine a little higher, and leave the cut grass on the ground. This applies if you do not sow seeds. Mowing should not be done for some time on newly sown lawns.

Non-earthing Potatoes (*T. A. C. C.*).—The effect of not earthing-up Potatoes is that the crop matures earlier, and a considerable percentage of the tubers are liable to push the eye end through the soil and become green, when they are unwholesome. In some districts Potatoes are grown on the bed system, the sets being planted or dibbled-in about 6 inches deep, and the beds are not earthed. When placed so deeply there are few green-ended Potatoes, the earthing being a necessity of the ridge or row system.

Wallflower Cuttings (*Idem*).—Wallflower cuttings, or rather slips, inserted now in a shady border and kept moist will root, or a considerable number of the slips. It is a practice seldom resorted to, as the double as well as the single varieties are much better raised from seeds. Cuttings made of the young wood will root freely under a hand-glass, inserting in sandy soil, keeping moist and shaded until rooted.

Genista capitata (*W. Raby*).—This is an attractive hardy little plant of shrubby habit that flowers early in the season, and concerning its



FIG. 16.—*GENISTA CAPITATA*.

usefulness there can be no question. A variety of *Genista umbellata* has been named *capitata*, and is distinguished from the species by the silky hair clothing the branches and leaves, and it is said to be a native of Mogador. The leaves are trifoliate, while the bright yellow flowers (fig. 16) in compact terminal heads are very freely produced. This species is a native of Barbary, being found on dry hills. A *Genista* quite distinct from this is seen in some gardens under the name of *umbellata*. It has been assigned a place among the varieties of *G. lusitanica*, a spring shrub, native of Portugal.

Destroying Cabbage Fly Maggots (*C. E. B.*).—The maggots are difficult to deal with in heavily manured ground. We have found lime water very effective against the maggot if taken in time, each plant having a good soaking poured close to the stem. The evil is that of the infestation not being discovered until the plants are almost if not quite destroyed. You may water the plants with a solution of Little's soluble phenyle, a fluid ounce to a gallon of water, keeping the solution from the foliage. As a preventive the ground should be dressed with fresh gas lime at the rate of $\frac{1}{2}$ cwt. per rod, spreading evenly and leaving a month or six weeks before digging in. It should be applied in the autumn or late winter, always when the land is bare, and never over the roots of fruit trees.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (F. A. A.).—1, *Bignonia jasminifolia*; 2, *Tradescantia virginica*; 3, *Gentiana Kurroo*. (W. S. E.).—1, *Lilium pardalinum*; 2, *Nepeta Glechoma*; 3, *Campanula persicifolia*; 4, *Platanus orientalis*; 5, *Alströmeria aurantiaca*; 6, *Habrothamnus elegans*. (P. W. D.).—1, *Centropogon Lucyanus*; 2, *Clerodendron fallax*; 3, *C. Thompsonae* (Balfourianum); 4, *Coprosma Baueriana variegata*; 5, *Crinum capense*. (H. B. M.).—1, *Retinospora plumosa aurea*; 2, *Cupressus Lawsoniana*; 3, *Hemerocallis flava*; 4, *H. fulva*.

Covent Garden Market.—July 18th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, Tasmanian...	8 0	18 0	Grapes, black ...	1 0	3 0
Apricots, box ...	0 8	1 3	Lemons, case ...	10 0	30 0
Cherries, $\frac{1}{2}$ bushel ...	5 0	10 0	Melons, house, each ...	1 0	2 0
" $\frac{1}{4}$ bushel ...	3 0	6 0	Oranges, case ...	10 0	25 0
" Cooking, per sieve	5 0	6 0	Pines, St. Michael's, each	1 0	6 0
" Dutch Duke, $\frac{1}{2}$ bshl	4 6	5 6	Raspberries ...	6 0	9 0
Currants, Black, per lb...	0 0	0 3	Strawberries, bskt 4 to 6 lb.	1 3	2 0
" Red, per sieve...	4 0	5 0	" peck ...	4 6	6 0
Figs, green, doz. ...	1 6	3 0	" home grown, doz.	8 0	12 0
Gooseberries, $\frac{1}{2}$ bushel ...	1 3	1 9			

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	2 0	Mushrooms, lb. ...	0 3	to 0 6
Beans, Long Pods ...	2 0	3 0	Mustard and Cress, punnet	0 2	0 0
" Jersey, lb. ...	0 6	0 9	Onions, bag, about 1 cwt.	5 6	6 6
Beet, Red, doz. ...	0 6	1 6	" Egyptian, per bag	4 0	0 0
Cabbages, tally ...	3 0	5 0	Parsley, doz. bunches ...	2 0	4 0
Carrots, new, bunch ...	0 3	0 6	Peas, English, per bushel	3 0	5 0
Cauliflowers, spring, per dozen ...	3 0	4 0	Potatoes, cwt. ...	5 0	10 0
Celery, bundle ...	1 0	1 9	" new Jersey, cwt.	10 0	12 0
Cucumbers, doz. ...	2 0	4 0	" Tenerife, cwt. ...	12 0	14 0
Endive, doz. ...	1 6	2 0	Radishes, long, doz. ...	0 6	0 0
Herbs, bunch ...	0 2	0 0	" round, doz. ...	1 0	0 0
Leeks, bunch ...	0 3	0 0	Shallots, lb. ...	0 4	0 0
Lettuce, doz. ...	0 6	0 0	Spinach, bushel ...	2 0	3 0
" Cos, score. from	0 6	2 0	Tomatoes, English, doz. lb.	3 0	5 0
Mint, green, doz. bunches	2 0	0 0	Turnips, new ...	0 4	0 0
			Vegetable Marrows, doz. ...	4 0	6 8

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Arums ...	1 0	to 2 0	Marguerites, doz. bnchs.	2 0	to 4 0
Asparagus, Fern, bunch...	2 0	2 6	" Yellow, doz. bnchs.	2 0	4 0
Carnations, 12 blooms ...	1 0	2 0	Odontoglossums ...	3 0	7 6
Cattleyas, per doz. ...	0 0	12 0	Pelargoniums, doz. bnchs.	4 0	6 0
Eucharis, doz. ...	4 0	6 0	Roses (indoor), doz. ...	3 0	4 0
Gardenias, doz. ...	2 0	3 0	" Red, doz. ...	1 0	2 0
Geranium, scarlet, doz. bnchs. ...	4 0	5 0	" Safrano, doz. ...	1 6	2 6
Lilium lancifolium album	2 0	3 0	" Tea, white, doz. ...	2 0	3 0
" rubrum	2 0	3 0	" Yellow, doz. (Perles)	2 0	3 0
Lily of the Valley, 12 bun.	8 0	18 0	" Maréchal Niel, doz.	6 0	12 0
Maidenhair Fern, dozen bunches...	4 0	6 0	" English:—		
Mignonette, doz. bunches	1 0	2 0	" La France, doz. ...	2 0	3 0
			" Mermets, doz. ...	3 0	8 0
			Smilax, bunch ...	2 0	3 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	to 24 0	Foliage plants, var., each	1 0	to 5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	" pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each	2 6	5 0
Azaleas, various, each ...	2 6	5 0	" pink, doz. ...	12 0	15 0
Boronias, doz. ...	20 0	24 0	" paniculata, each	1 0	3 6
Orotons, doz. ...	18 0	30 0	Lilium Harrisii, doz. ...	8 0	18 0
Dracæna, var., doz. ...	12 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna viridis, doz. ...	9 0	18 0	Marguerite Daisy, doz. ...	8 0	10 0
Erica various, doz. ...	8 0	18 0	Mignonette, doz. ...	8 0	12 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each ...	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
" small, 100 ...	4 0	8 0	Roses, per doz. ...	6 0	18 0
Ficus elastica, each ...	1 6	7 6	Stocks, doz. ...	8 0	12 0



Making the Best of It.

ON Thursday, May 24th, we tried to show how very impossible it would be for us to live within ourselves—how our population is far beyond our acreage, and while it (the population) increases our acreage remains stationary. Too much capital is made out of our "waste lands." Some people seem to think land is land, and being land is cultivable. Much land is only room out of doors, and can never by any stretch of imagination or persevering effort be made anything else. The only chance of any return from such land is making it rabbit warren, provided it is dry enough, and even rabbits require some little amount of herbage. We are pretty sure some rabbit warrens pay well, and they certainly provide a toothsome dish for the multitude. There is one important fact about the waste lands that is often forgotten by those who urge their cultivation. Where are the waste lands that need reclaiming? Generally far off, very far off any available labour, and nowadays when labourers cannot be got to reside in pleasant and accessible villages, it is folly to think of persuading them to bury themselves in the wilds.

There is a movement afoot now which has as its object the multiplication of small holdings grouped together into operative colonies or settlements. These holdings are intended to induce the rural population to remain where it is, and to entice back those wanderers who have strayed into the towns. The promoters also expect that these small agriculturists will produce more per acre than is produced on large farms. To achieve this end all we can say is that the land selected for the experiment must be of the best, and the men themselves most carefully selected, and even then we are doubtful as to the results.

There are several continental countries where the land tenure and farming generally are very much on the lines laid down by these co-operative small holdings, where the cultivation is mainly by the spade, and the workers are the man and his family. That these men and their families work very hard and do all they know is very evident; this is what may be termed intense cultivation, but do we find the results so far superior to those arrived at under our system of large holdings? We fancy not. Happily here in Great Britain women have ceased to do rough field work (we do not discuss the merits or demerits of the case); the children, too, are safely at school till their bodies have attained to fair growth and strength. We can say honestly that in no country in Europe do the working class live so well as they do here; perhaps, indeed, they live too well for wisdom, but they can and do afford to be very comfortable. They would scorn both the wages and the living of the French or Belgian peasant.

Belgium is the land of small holdings and hard working peasant families; but after all, are they producing so much more food stuffs than we? We find Belgium needs to import 74 per cent. of Wheat as against our 77, 74 per cent. of Barley as against our 44, and 39 per cent. of Oats, Buckwheat, and Maize as against our 54. If protection aids home production, Belgium has it for meat and flour, but Belgium is not a great meat consuming country. We average about 127 lbs. of meat per man per annum, whereas in Belgium we find the allowance is only 70 lbs. per head per annum. She produces 84 per cent. of this meat, importing the other 16 per cent. We thought the Belgian cows were better milkers than we find. A respectable English cow is expected to yield per annum about 800 gallons; her Belgian relation a little over 500.

Germany is another country where farming is of the intense type, but here we find that her average yield of cereals is from 20 to 25 per cent. under ours. In France half the occupied population are farmers,

and they enjoy the benefits of protection, yet with that protection the yield of their cereals falls short of ours by from 30 to 40 per cent. As we have before said, our people consume per head much more meat than Belgians, French, or Germans, but they beat us as bread and Potato eaters. Not all the Potatoes used in Belgium and Germany are consumed as a vegetable, but are used in the manufacture of starch and wretched spirits.

We have found some figures (reliable ones) which go to prove that after all we produce more food, acre for acre, from our arable land than any of our much vaunted neighbours. It has been reckoned that we each require 884 lbs. bread stuff per annum. Now a very pertinent question arises. How many acres are required to supply us with these 884 lbs.? These are the figures:—

United Kingdom	..	..	580	acres per 1000 persons
Belgium	..	..	656	" " "
Germany	..	..	870	" " "
France	..	..	1034	" " "

Where then does the better cultivation come in? We fail to see where we are bested. Our large areas of plough can be worked more economically and more productively than the small plots, however carefully tilled. It is considered by some authorities that our system is more wasteful than that of the foreigner, because we have something less than 50 per cent. of land under plough, as against the 78 per cent. arable of Belgium, and the 75 per cent. of France. Nevertheless, we find that with our large percentage of permanent pasture we still manage to have as much land under the plough as the Frenchman, one third more than the German, and almost double as much as the Belgian.

In all agricultural papers we see from time to time, and of late very frequently, discussions as to the value of our root crops. Without roots certainly we could not maintain our present head of sheep, and we have rather looked to them as our sheet anchor since the days of cheap corn set in. We excel in our root crops, raising as we do 20 tons as against Belgium's 9½ and the paltry 3 tons of France. We are a meat-eating nation, and we therefore must provide food for the meat when living to consume. And we fancy that all the good tillage left by the sheep has a good deal to answer for in our finer and heavier crops of corn (*i.e.*, Barley and Oats). Nothing has yet been found that beats the sheep as a manure maker; he gives back to the land all he takes out of it. Then again, as regards hay or other fodder, we are far and away before our neighbours, and we do all this without lessening our grain-producing areas.

It is never quite fair to compare different countries; there are so many factors we cannot take into account. English agriculturists are not in a flourishing condition at present, but we doubt whether we should be bettered if we adopted many of the Continental methods. We should want a change of population first, and, as we said before, the English peasantry would take badly to the longer hours and smaller wages and poorer food which would be part of the régime, and our whole land system would stand in need of alteration. Then we should have to change the climatic influences, and when we got all done (supposing it were possible), who would be a penny the better? Not the farmer, not the consumer, and not the agitator.

If we want to attain to a state of greater productiveness—and that we may do so we fully think—it will be by applied science. There is no doubt that we owe much in the past to the patient researches of our scientific men; their discoveries they place freely at our disposal, and many of them think that as yet they are only beginning to learn some of the secrets Nature has locked in her bosom.

Work on the Home Farm.

The "Times" has published the result of its first inquiry into the state of British farm crops. The result, compared with that of last year, shows Wheat to be worse, but Barley better, and Oats much better. This does not necessarily mean that Wheat is a bad crop, or that the other two are good ones. Wheat, we imagine, will turn out to be about an average. Barley, which made a bad start, has recovered, the cool, showery weather having given it time to do so; the cool weather has also specially suited Oats, and as far as our own knowledge reaches, these will both be fair average crops; and the "Times" report appears to denote a similar state of things throughout the country. May there be good weather wherein to harvest them!

We are at any rate at last having a taste of real summer weather—blazing hot days and warm nights. The men from working fully clothed

last week are now almost stripped. Potatoes have spread out wonderfully, and are now in full flower, the ridges being quite invisible. All kinds of root crops are growing fast. Turnips sown nineteen days were horse-hoed yesterday, and are being hoed and singled to-day. Is that quick enough?

A great quantity of Clover and hay has been lying in swath, waiting for fine weather; now this has come haymaking is employing nearly all hands. The rain has not damaged it much, and the crop is being got in fair order, but not perhaps quite so good as last year. The bulk is disappointing, particularly of Clover, and the deficiency will be the more felt as stocks of old hay are rather low. Perhaps second crops may be secured if weather conditions should be favourable.

In connection with second crops there is a strong belief amongst country folk that these are not so good as they used to be, and they lay the blame upon mowing machines, which nip off and bruise the stems instead of making a clean cut as a scythe does. There may be considerable truth in this; all the fault, however, does not lie with the reaper, but partly upon the man who sharpens the knives, for in too many cases he is satisfied with getting the work done somehow, only just reducing the dullness of the cutting sections sufficiently to muddle along, and forgetting that sharp knives make easier as well as better work. The sharpening of reaper knives should be made as easy an operation as possible, and every machine should be accompanied by a small treadle whetstone shaped for reaper sections.

Reapers which have been thoroughly cleaned and oiled before being put away in a clean place come out almost ready for work, and, as a blacksmith remarked the other day, "Most machines take a day to look them over before you can find what is matter with them; but Mr. B.'s machine never wants much doing at her, because he cleans her well after harvest and covers her up with straw in the barn."

Soldiers in the Harvest Field.—The serious dearth of farm labour in Dorset, which promises to be acute this harvest time, is to be met in a novel way. The officer commanding the dépôt at Dorchester has issued a public announcement that he will be prepared to give favourable consideration to applications for soldiers to help in the harvest. As many of the men at the dépôt have been trained in field work they will probably respond readily to the appeal for their temporary assistance in a real emergency.

The Irrepressible Charlock.—One of the most persistent farm weeds is the wild Mustard or Charlock. A Wheat field just outside my window is covered from end to end with this Charlock in full bloom. The Charlock was rightly looked on by the agricultural writers of old as a nuisance, and it seems to have been very abundant then. In his work "Rural Economy of the Southern Counties," Marshall says of the weed in the Isle of Wight:—"The Turnip crop is shamefully managed in this island; not 1 acre often appears to have been hoed. To-day I saw a waggonload of Charlock an acre, where Turnips were doubtless intended." At the beginning of September I have sometimes been inclined to bless Charlock, when I have been walking up and shooting partridge. It sometimes affords a little "lay" for the birds, where without it there would be practically none at all.

The Russian Harvest.—It is satisfactory to be able to state that much of the widespread anxiety which for many weeks past has grievously harassed the peasantry of South and South-Western Russia has during the last few days been happily relieved by copious rainfalls over the greater part of the vast grain-producing regions in those provinces. Under the improved prospects, however, and even with the most favourable conditions for harvesting operations, it is not anticipated that the general yield will at the best be more than what is usually described as a "middling" or "low middling" crop. The reports from the Volga provinces are not very cheerful, but it is expected that there will at all events be no recurrence this year of the calamitous shortage of last season. In Bessarabia the outlook has been rendered fairly good by timely rains, but the unfortunate peasantry of that province are still in a lamentably distressful condition from the effects of the recent famine. All their horses and draught oxen have either been sold at ruinously low prices, or have perished for want of fodder.—("Standard.")

The American Wheat Crop.—The United States, like this country, have suffered from drought in May; and, unlike the circumstances here, the Wheat crop has been considerably injured by the lack of rain, chiefly the large spring division. The report of the Department of Agriculture gives the estimated average condition of each division for June 1st, but reports of injury from drought and insects have come in since, so that the official estimates may be regarded as higher than they would be if the reports upon which they are based were collected afresh now. The condition of winter Wheat is put at 82.7 per cent. of a full crop condition, or 6.2 points lower than it was for May 1st, but 15.4 per cent. higher than it was a year ago. The area, after the ploughing-up of a large expanse, is reckoned to be 24,908,000 acres, or about a million acres less than the extent harvested last year. The area of the spring Wheat crop is returned at 17,273,000 acres, or 567,000 acres less than that of last year, and the condition at 87.3, or 4.1 lower than it was a year ago. Yet we find estimators predicting a total Wheat crop up to 620,000,000 bushels, though one reckoning is as low as 547,000,000 bushels.

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Journal of Horticulture.

THURSDAY, JULY 26, 1900.

The Crystal Palace.

ON June 10th, 1854, this popular resort was opened to the public, and it may be said that though it has seen many changes it has never lost its favour with the British public; while the stranger from other lands who comes to England and returns without seeing the Crystal Palace is looked down upon as a veritable heathen by his better travelled neighbours. Many readers of the *Journal of Horticulture* will doubtless remember the prestige gained in the earlier days amongst the aristocrats of London. Time was when from the terrace one could see a mile of carriages extending on Sydenham Hill; but those days have gone never, it may be anticipated, to return.

With the secession of the fashionables, however, it was not destined that the magnificent work of the great Sir Joseph Paxton should pass to ruin and decay. The splendid grounds, with the noble building, came to be regarded as the palace of the people, and to-day this proud position is maintained.

In one respect the Crystal Palace has never changed, and that is in its allegiance to horticulture, particularly in regard to special societies. From the time of its opening until the present day show has succeeded show, and despite the lapse of half a century a substitute for this purpose cannot yet be found in the great metropolis.

Of the three floral festivals held at the Crystal Palace during the last fortnight none exceeded in beauty and effectiveness the bicentenary celebration of the introduction of the Sweet Pea, and to a report of which we devote a large portion of our present issue. The whole of the northern nave was given over to the flower of the day. For the benefit of those who have not been to the Crystal Palace we give on page 73 an illustration, showing a bird's-eye view of the naves and centre transept.

During FIFTY-TWO YEARS the "JOURNAL OF HORTICULTURE" has been written by Gardeners for Gardeners, and in its principles, its practice, and its price it still remains the same. One alteration is perhaps, however, necessary. Our modern methods of production have rendered the price old-fashioned, and hence in order to meet the wishes of the present generation of Gardeners the "JOURNAL OF HORTICULTURE" will, from to-day, be sold for TWOPENCE instead of Threepence.

Commemorative Festival of the Sweet Pea.



FOR a period of several months the columns of the *Journal of Horticulture* and its contemporaries have contained occasional references to the meetings of the executive committee of the international celebration of the bicentenary of the introduction of the Sweet Pea into Great Britain, and the gardening public have entered into the spirit of the celebration with enthusiasm. There have been murmurings against such an event, protestations that it would be worse than useless, and that failure was written over it all. We were glad to see, however, that even the oppositionists were converted when the conviction was forced upon them that here was to be one of the greatest horticultural successes of the last quarter of a century. They donned Joseph's coat, and the voice of the dissenter was stilled.

The committee, with Mr. George Gordon as its chairman and Mr. R. Dean as secretary, recognised at an early period that the undertaking that had sprung from such a modest beginning was going to be a most unqualified success. The several members worked with a really surprising unanimity—they were evidently thoroughly imbued with the spirit that union means strength. The schedule was not from the hands of the printers ere applications began to pour in from all quarters; while the great horticultural firms did not seem to be able to do enough in the form of special prizes for the fragrant flower of the year. The suggestion that subscriptions would be welcomed was responded to with a generous promptness that speaks volumes for the earnestness of gardeners, and proves the truth of the words of a writer in one of the leading daily papers, who in referring to the exhibition said: "Your true gardener is an enthusiast, and to a certain extent ignores the outside world. England may have three wars going on at once, and promises of further complications in the near future, but your true gardener does not allow himself to be worried by such trifles."

The most careful consideration was given to every point that might increase the interest in this charming annual, and in the success which has crowned their efforts the promoters and managers have found an ample reward. At an early moment in the proceedings it was recognised that the examination of a comprehensive collection of Sweet Peas for the purposes of classification was very desirable. With this end in view Mr. N. N. Sherwood, head of the great wholesale seed house of Hurst & Sons, was approached respecting a visit to Kelvedon; this gentleman replied that he should be delighted to meet the committee at the trial grounds, and that any information possessed by the firm would be placed at the command of the committee.

The Visit to Kelvedon.

It was on Monday, July 16th, that the committee and a number of friends invited by Mr. Sherwood met at Liverpool Street Station, and proceeded thence to Kelvedon. Detraining here it was observed with a sigh of genuine relief that our host had provided a number of brakes in which to drive to our destination. Readers will understand our thankfulness when they remember that the thermometer exceeded 130° in the sun, and about 92° in the shade.

The trial grounds of Messrs. Hurst & Sons are at Feering, about one and a half mile from Kelvedon, and they flank the main road at certain portions. In proceeding from the station we did not alight at the grounds, but drove on to Prested Hall, a charming old house which Mr. Sherwood now uses as a shooting box. It is said to have been built in 1539, from which statement readers may glean some-

what of its architectural features both within and without. In the hall a gong has been formed by the outer casing of a British shell that is reputed to have done some damage to the Boers in the present war. Whether it did so or not is immaterial, as its burnished brass case now makes an admirable gong. It was noticed how eagerly everyone attacked that gong, but after all luncheon was served in a marquee without official notice having been struck.

Notwithstanding the heat everyone was apparently in good appetite, and the excellent meal was discussed amid serious discussion and badinage, and was enjoyed by all. The time was not largely taken up by speech-making, and the party was soon proceeding in different sized sections to the trial grounds. *En route* we passed through acres of culinary Peas down for seed, with Beans and other crops in different parts. The usual discussion arose as to the merits or otherwise of certain varieties, and speculations were rife as to the distinctness of this variety or that; but it was far too hot to become excited without some serious tangible reason. Some plodded on under the guiding wing of Mr. Newby, the firm's manager at Feering, until the Sweet Pea trial was reached.

The several members of the Classification Committee were called together, and for upwards of two hours passed and repassed along the rows of plants, and argued mildly as to the merits or otherwise of the flowers examined. The members were conscientious in their desire to do the work for which the journey had been taken, but even their keen sense of duty was not proof against the attractions of a water (Appollinaris) cart, which with *et-ceteras* came soon after three. Everyone was thirsty, and every man drank. The strike being ended work was resumed, but the sun seemed to grow hotter and hotter, and the task even of voting aye or nay was too great for some of the visitors. At four o'clock another division occurred, some of the members having to return at once to the metropolis. A cup of most refreshing tea was provided by Mrs. Newby, and away went one breakload, while the remainder toiled away beneath the sweltering sun. We are not able to give the results of the labours of that committee, so we will briefly give readers an idea of the extent of the trials.

The number of rows reached 225 in all; but these figures do not represent distinct named varieties. It must be borne in mind that the trial was instituted in the ordinary way of business by the firm to test the germinative powers and the correctness of the stock with which they had been supplied. Hence it was found that several varieties were duplicated, indicating that seeds in bulk had been procured from two sources, while in the case of Blanche Burpee there were at least half a dozen trials. Each row was numbered, and the firm had had books prepared for the party, giving the number, the name of the variety, and leaving an abundance of space for annotation. This was a most admirable idea, and was of the greatest assistance to everyone present. Every row was examined, and despite the heat some were keenly discussed ere one, two, or three marks were recorded. It is possible that some varieties scored a point more than their just due, and that others were a point below, but generally speaking the quality of the flowers was accurately recorded.

Some varieties stood out from their neighbours with conspicuous excellence in the softness or richness of their colour, but there was not that great difference in the size of the flowers that might have been anticipated. They were all smaller than would be the case under normal garden conditions, with the soil in the perfection of condition at the outset, and the subsequent attention of the closest and the most skilful. The fact that they had not been grown under the most

favourable conditions was for the sake of comparison just as well, as the characteristics were mainly normal instead of abnormal from super-excellent cultivation. We should have enjoyed an hour among the splendid trial of culinary Peas, but time would not permit. The heartiest thanks of the society and all lovers of Sweet Peas are due to Messrs. Hurst & Sons for placing such valuable information at the disposal of the committee, and through its members to the general gardening public.

At the Crystal Palace.

On Friday, July 20th, those persons keenly interested in the cultivation and improvement of the Sweet Pea were wending their respective ways to the Palace of glass. Happily, too, the majority did not come empty handed but brought with them a portion of the abundance of the Sweet Peas that perfumed and beautified their gardens at home. The four quarters were all represented by more or less excellent flowers. Some came to enter into certain of the smaller classes; while others from ducal and lordly domains brought their varieties by the hundred, and fought many a tough fight with the modest Sicilian flower. The trade, too, played a noble part in the great display, and by their splendid efforts did much to enhance the excellence of what was an undoubtedly magnificent spectacle.

The Sweet Pea has not the ornate beauty of the Rose, or the shapely contour of the show Dahlia, but it is the possessor of a fascinating charm; that may be equalled, but is certainly not surpassed, by either of the flowers named or any other that might be mentioned. It cannot be disputed that for many purposes of decoration the Sweet Pea is unexcelled even if it is approached. No better exemplification of the truth of this statement could be found or desired than a proportion of the exhibits at the Crystal Palace on this occasion. Some of the exhibitors had, it is true, adopted a system of arrangement for

which a flower of this character was by no means suited; but generally speaking the effects produced were the very essence of refined beauty. It has been said that Sweet Peas carry their flowers on such short footstalks, and have such a washed-out appearance, that they are useless for dinner table decorations which have to withstand the ordeal of artificial light. There may have been some degree of truth in these

statements a few years ago but not at the present. The Sweet Pea of that greatest of all raisers, Mr. Henry Eckford, of Wem, whose portrait we are enabled to give on page 77, have footstalks of the greatest length and strength, and the flowers of some tell forcibly either by gas or candlelight, and even beneath the piercing rays of the electric show to perfection. Insipid colours may henceforth be regarded as things of the past.

Without coming down to dryas dust figures and statistics it is not easy to convey to readers the dimensions of this exhibition, which had its birth in the trial grounds of Messrs. Hurst and Sons only one short year ago. It may not be out of place to relate at this juncture the actual inception of the celebration, which so admirably illustrates how great things from small beginnings spring. It appears, then, that when the Sweet Peas were flowering at Feering in 1899 Mr. William Cuthbertson, of the great Scottish firm of Dobbie & Co., and Mr. Richard Dean, of Ealing, were there on inspection bent. The



FIG. 17.—THE CRYSTAL PALACE.

one said to the other how pleasant it would be were it possible to institute an exhibition, and by the aid of any persons interested to classify the modern Sweet Pea on a basis that was at once feasible and easy of understanding. They agreed on these points and forthwith discussed the matter further. Mr. Cuthbertson said, "Now, Mr. Dean, so-and-so must be done," and Mr. R. D. agreed, and promptly made memoranda thereof. At this point the photographer stepped in (see page 75), and the talk culminated after various vicissitudes in

the exhibition at the Crystal Palace on Friday and Saturday last. Honour to whom honour is due.

From the point of view of actual numbers of flowers exhibited, and the general remarkable quality observable throughout practically the whole of the show, there could be found nothing at which to cavil. There were no "walks over" in this grand display; every class was keenly contested; no less than seven growers faced the judges in the great class for 100 bunches, and in the "coming of age" class, for which Messrs. Sutton & Sons and Henry Eckford were answerable respectively; every man was on his mettle; everyone was determined to win the coveted awards. All the greater honour is therefore due to Mr. Peter Blair and Mr. Edwin Beckett, amongst others who were represented by some of the most magnificent Sweet Peas that have ever been shown or grown in the United Kingdom. Many readers of the *Journal of Horticulture* will, of course, be aware that the Sweet Pea has "caught on" in America to a degree that would never be dreamt of in this country; and yet the Rev. W. T. Hutchins, who came over the herring pond for this celebration, was emphatic in his declaration that nothing to equal the Crystal Palace display had ever been seen in the United States.

We must not, however, continue our plaudits any further, but must put in a word of mild criticism respecting, not the show itself but its arrangements. We had hoped that as the majority of the executive committee had had considerable experience in the management of shows this one would be beyond reproach; but this was not the case. As a matter of fact, the exhibition sub-committee performed its duties in a decidedly perfunctory way; so much so, indeed, that the judges were not instructed to mark the cards, the classes were spread here and there over the great area of the northern nave, and at four o'clock in the afternoon of Friday the whole of the first, second, and third prize awards were not legibly placed on the exhibitors' cards. Further than this, two of the central tables in the nave were almost empty, while the remainder were packed to an unwarrantable degree. We can only ascribe this to the sub-committee named, as the honorary secretary was certainly indefatigable in his efforts to make everything a perfect success. Probably if a further show of Sweet Peas were held under the same auspices such *contretemps* would not occur, but they are none the less regrettable.

Reverting now to pleasanter themes, we have to record the fact that the exhibition was declared open by Lady Treloar, the wife of Alderman and Sheriff Sir William Treloar, who was president of the celebration, attended at the Crystal Palace on Friday in semi-State dress and wore his chain of office. The opening ceremony was fixed for 1.30 P.M., and within a few moments of that hour Miss Sherwood presented an artistic bouquet of Sweet Peas to Lady Treloar, and in a few words the affair was complete. At this hour the judges had finished their duties. In the afternoon a special sub-committee was formed to make the awards in the case of the several non-competitive exhibits, some of which were composed wholly of Sweet Peas, while in others there were miscellaneous flowering and foliage plants.

The Luncheon.

At an early stage of the proceedings, and even before the celebration had assumed really definite shape, it was suggested that a banquet be held to which the foreign guests, with distinguished home growers, could be invited and entertained. This, however, fell through, and we think very few persons really regretted it. In its

stead came the Luncheon, which was far more enjoyable than the formal banquet with its necessary restrictions could possibly be. As president Sir Wm. Treloar occupied the chair, and a more genial, homely, and entertaining chairman never graced a horticultural festive board. Sir William was supported by the Rev. W. T. Hutchins, Mr. N. N. Sherwood, Mr. Leonard Sutton, Mr. Goston Salmond, Mr. Fritz Benary, Mr. Henry Eckford, and practically the whole of the members of the executive committee, together with a considerable number of distinguished British growers. Naturally enough the horticultural Press was in great force, all the prominent daily papers being also represented. The luncheon having been disposed of a somewhat lengthened toast list was turned to, and carried through with enthusiasm.

After the loyal toasts had been received came the presidential speech, which was brightly conversational throughout, and provoked roars of laughter from everyone present before it was finished. Sir William said it had been some time before he grasped why he should have been asked to become president, but had concluded that it was because of his similarity to the flowers they were gathered together to

exalt—the Sweet Pea. The resemblance, continued Sir William, lies in the fact that both are useful for table decoration—indeed the speaker went so far as to assert that the value was merely decorative, and had no intrinsic worth. He was, however, delighted to be present at what was one of the most magnificent horticultural exhibitions that had ever been gathered together within the precincts of the Crystal Palace; and, moreover, he had understood from his friend the Rev. W. T. Hutchins that such a show had not yet been seen in the whole of the United States of America. He spoke in terms of congratulation to those who had been instrumental in bringing the affair to such a successful issue, and in conclusion exhorted all the speakers to follow the excellent example he had set to them, and be as brief as possible. He gave them the toast of "Success of the Sweet Pea Bicentenary."

Mr. George Gordon responded, and laid stress upon the success that had crowned the efforts of those with whom was the management, and spoke of the generous support that had been accorded. He briefly reviewed the history of the movement, and considered it had been successful from the

first moment until the present. He spoke of the pleasure it gave his committee to know that the work that had been done was appreciated throughout the whole of the land, on the Continent, and even in America.

Mr. W. P. Wright proposed, "The Donors of Special Prizes," of whose necessity in connection with horticultural shows he had long been convinced. He was particularly emphatic in his complimentary remarks to the excellent work of Mr. Henry Eckford during the past twenty-one years, and said what a pleasure it was to him to see the veteran present. The names of Messrs. Leonard Sutton and John Collingridge were coupled with this toast, and both of whom responded.

"The Exhibitors and Judges" was given by Mr. T. W. Sanders in brief terms, and responded to by Messrs. W. Cuthbertson of Rothesay and W. Balchin, jun., of Brighton. Like all the others, this toast was splendidly received.

To Sir William Treloar was entrusted the task of proposing "The Foreign Guests and Visitors," which he did in a short speech that was full of pungent wit, though it contained comparatively little in relation to its text. He, however, accorded to them a most hearty welcome. The names of the Rev. W. T. Hutchins, Philadelphia; Herr Fritz Benary, Erfurt; and Mr. Henry Gillman were coupled with the toast. The Rev. Mr. Hutchins said at the outset that he had been called



FIG. 18.—MR. N. N. SHERWOOD.

many things, but never before a foreigner. But he was bound to admit that he had been accorded a most hearty welcome from everyone in England. He spoke in enthusiastic terms of the merits of the exhibition, and regretted that the American trade was not represented. He thought everyone who had a garden must have Sweet Peas, and referred to the immense pleasure he had found in their cultivation during the summers of the past thirteen years. He paid a graceful tribute to Mr. Eckford. Herr Benary and Mr. Gillman both responded, the latter asserting that the Crystal Palace was the best place in London for exhibitions of this or a similar character.

Mr. N. N. Sherwood proposed the toast of "The Officers and Committees of the Celebration," and testified to the pleasure it had given him both to be able to assist the movement by placing his trials at disposal, and by being present on such a pleasant occasion. Mr. Richard Dean responded in his well known style.

Mr. R. Gofton Salmond proposed "The President and Vice-Presidents," a toast that was received with enthusiasm, Sir William's being musically rendered. The president and Mr. J. W. Moss responded, and the gathering was concluded.

It had been extremely pleasant, but was far too long for a day with the thermometer at nearly 90° in the shade, especially when the conference fixed to immediately succeed the luncheon was considered.

The Conference.

The opening of this meeting was advertised for four o'clock on the first day, when it was announced that three papers would be read; the concluding proceedings were to commence on Saturday at 2 P.M. The length of the luncheon and the heat threw these arrangements slightly out of gear, which resulted in only two subjects being dealt with on the first day, leaving the others for the second. The audience that was eventually gathered together some three-quarters of an hour late was a comparatively small one, but made up in knowledge and enthusiasm what it lacked in mere numbers. Practically everyone present had a keen interest in the flower, and the essayists were therefore listened to with the closest attention. The chair was taken by Mr. R. Wilson Ker of Liverpool, who, with hardly a preliminary word, called upon Mr. S. B. Dicks to read his paper on the

Naturally his information was crowded with botanical names, dates, and the authorities for nomenclature; and from a few of those read out, it was very evident that the botanists of 1650 and onwards had not yet recognised the advantages of reasonable brevity. Both Sicily and Ceylon were mentioned as being native places of the Sweet Pea, which Father Cupani was the first to chronicle as *Lathyrus distoplatyphyllus hirsutus* in *illis magno et peramæno flore odoro*; but the former is usually accepted as the more correct. That Mr. Dicks had had some practice with such phrases was proved by the way he rolled them off his tongue, whence they flowed with all the ease that characterises the more homely and certainly more euphonistic *Lathyrus odoratus* of present day peoples. From the time of Cupani to that of Eckford is a long lane, but Mr. Dicks followed its devious ways in a masterly manner, and kept his audience interested over a space of quite forty minutes.

In the subsequent discussion Mr. Ainsworth of Carter & Co. gave it as his opinion that Captain Clarke, mentioned by Mr. Dicks, was a true hybrid, which was at first very beautiful, but which in the course of time degenerated until it was practically useless. Mr. Hutchins quite followed Mr. Ainsworth in respect of Captain Clarke, as he had had no difficulty in producing an almost identical variety. Messrs. H. Eckford, E. Laxton, J. Fraser, G. Stanton, and others participated to a slight degree in the discussion.

The Classification of the Sweet Pea.

The question of adopting some standard for governing the classification of the Sweet Pea in the future is one of the greatest importance, and Mr. W. P. Wright was requested to state his views on the matter. This he did in a brief and pointed manner, after warning his hearers that the question was an entirely new one, and that his statements were the results of his own personal observations and convictions. Until the present moment we have had what may be described as two sections, but these were by no means clearly defined, as they had relation to the standards, whether erect or hooded.

Mr. Wright in propounding his theory called for the abolition of the hooded standard, which was, he asserted, a vice that was seen in youth and maturity. He pointed out how both hooded and erect standards were commonly observable on the same spray, thus precluding the possibility of any definite standard on such an unstable foundation. The standard he affirmed should be erect, at least 1½ inch broad, and of great substance, while the wings should be half the size of the standard, and closing so as to practically obscure the keel, which is seldom ornamental. The essayist suggested that very definite rules be laid down as to the form and size of flowers to start with, and then that they should be classified according to their colours. This would be to all intents and purposes following the lines laid down for the classification of the Carnation, and it is so simple and so generally understood that much could be said in favour of its adoption.

The colour headings suggested for utilisation were selfs, flakes, bicolors, fancies, and Picotee edged. These, it will be admitted, are sufficiently comprehensive, and no difficulty need be anticipated until the division between the selfs and bicolors has to be found. There are many bi-coloured Sweet Peas, but very few true selfs; those that



FIG. 19.—THE GERM OF THE BICENNIARY.
Mr. W. Cuthbertson. Mr. R. Dean.

History of the Sweet Pea.

The interest that Mr. Dicks has taken in the early history of the Sweet Pea was made more and more apparent the deeper the exhaustive paper was entered upon. He has had opportunities of gleaning knowledge in almost all quarters of the globe, and he has apparently let no single chance slip away. The greater proportion of the information read in the form of a paper on the present occasion had previously been distributed through the medium of the American Press, but it was nevertheless fresh to many of the listeners. Mr. Dicks clearly set forth at the outset that it was only with the early history of the Sweet Pea that he would deal, as the more recent improvement had been placed in other hands. The early records of the flower are apparently somewhat obscure and conflicting, but so far as possible Mr. Dicks made everything plain and straightforward.

we usually regard as self have almost invariably different colours in the standard and two wings; but this is a matter of detail which can be overcome with some expenditure of careful thought. Mr. Robert Sydenham, Birmingham, and the Rev. W. T. Hutchins supported the suggestions made by Mr. Wright, and would welcome the adoption of some definite schemes on the same lines as, if not identical with, those laid down.

Some Points on the Culture and Decorative Uses of the Sweet Pea.

Considering that the time allotted to each essayist was twenty minutes, it will be generally admitted that Mr. H. Dunkin of Leicester had more than sufficient work to do. It would perhaps have been as well had the first portion of the title been omitted, so that Mr. Dunkin could concentrate the whole of his energies upon the second and more important half. Fortunately the essayist grasped the significance of this beforehand, and to a large degree epitomised the cultural department, with which it might reasonably be assumed all those present at the meeting were more or less familiar.

We hope and believe that when this paper is given to the world in its entirety, either through the medium of the horticultural press, or a pamphlet issued by the celebration committee, it will do much to encourage the utilisation of this graceful, fragrant, and refined flower, for all decorative purposes. According to Mr. Dunkin, who it may be noted, is a particularly skilful decorator, there is practically no purpose to which they cannot be put, and that with signal success. Schemes of one colour only were apparently in greatest favour, and it was mentioned how essential it was that colours not looking insipid under artificial light be chosen. Suggestions were made as to how the greatest possible amount of value could be derived from the flowers at command, and Mr. Dunkin was strong in his recommendations, and convincing in the manner of expressing his opinions, that the Sweet Pea would yet come more and more to the fore.

If the essayist was sound in his remarks as to the decorative value and uses of Sweet Peas, he was no less so in respect of cultural matters. He laid down laws on this head, and rules on that, all of which were so sensible and so easy of accomplishment, that they are worthy of everyone's adoption. There cannot be the slightest doubt that if the suggestions were conscientiously followed the grower would be amply rewarded by a richer crop of flowers, of greater size and substance, and of more delicious fragrance than had fallen to his lot in the past. The discussion on Mr. Dunkin's admirable paper dealt only with one or two points in cultivation.

The Evolution of the Sweet Pea.

The paper on the "Evolution and Improvement of the Sweet Pea," produced by the collaboration of Mr. John S. Eckford and Mr. C. H. Curtis, was read by the latter. It was a somewhat lengthy paper, and necessarily covered a portion of the ground already dealt with by Mr. Dicks. Commencing with Cupani's Sicilian Sweet Pea, the work of numbers of prominent growers was reviewed, and then followed an account of the famous work executed by Mr. Henry Eckford, who commenced with five varieties in the late seventies, and obtained his seed from Lee, of Hammersmith. The Eckford productions, from Bronze Prince, certificated in 1882, down to the 1900 novelties, were reviewed, and it was shown how the standard of the Sweet Pea had been flattened out and stiffened, its reflexed margins were straightened, and its deep apical notch finally filled up, until now, in such varieties as Prince Edward of York and Mrs. Dugdale, this organ is almost circular, and under good cultivation about an inch and three-fifths across, sometimes a little more. The wings, too, were developed forward, broadened, and made more substantial, while the keel also came in for improvement.

The authors stated that selection was one of the chief methods of securing improvement and preventing reversion. Seed sports or seminal variation also gave some valuable varieties, but it was by a careful method of cross-fertilisation that new colours and subtle combinations of colours had been secured. In habit it was easy to demonstrate that improvement had been made, as also was it to show that numbers as well as size of flowers had been increased, until now

instead of two blooms on a stem there were three, and in some few varieties a very large percentage of four on a spike, while seven was recorded by Mr. Curtis as produced on a plant of Mrs. Fitzgerald in his own garden. Other improvements, such as elongation of spike, were referred to, and the author passed on to hope that the Sweet Pea should not be confined or hampered by any strict rules of form; that it should be the flower of the masses rather than that of the fastidious; that hooded as well as erect standards be allowed to stand so as to suit all preferences; that dwarf Sweet Peas might be improved for bedding purposes; and that if the double Sweet Pea ever became beautiful it should not be banished. Many other points were dealt with, but these were the chief ones in a paper brimming over with facts and interest. A few questions were raised and briefly answered, but no long discussion followed the paper. The customary votes of thanks concluded the proceedings.

The Sweet Pea in America.

As the greatest American amateur in Sweet Pea culture, it was fitting that the Rev. W. T. Hutchins should come to England to join in the praise of the flower he loves and grows so well. For something over a dozen years this minister has been finding health and pleasure in the summer by cultivating the beautiful Sweet Pea, and it speaks volumes for his devoted enthusiasm that he should travel thousands of miles by land and by water to be present at the bicentenary in England. He was not a total stranger to our land; he was, as a matter of fact, among us only five short years ago. That lapse of time has, however, brought its changes, and amongst these have been the progress in Sweet Peas which astonished our American guest, and proved to him that though old England may move somewhat slowly, she is very sure, and generally scores a splendid goal.

Mr. Hutchins had had to complain on a previous visit of the lack of excitement and the tardy recognition that had been accorded to the great Henry Eckford. Now he could see a change, for there were Sweet Peas on all hands, everyone talked of them; and the testimony to Eckford of Wem for his splendid work was universal. The Sweet Pea, said Mr. Hutchins, "caught on" with remarkable quickness on the "other side," and in a very brief space had become the craze. Perhaps Mr. Hutchins fears that its Mushroom-like celerity of growth in the States will not stand the wear and tear of time so well as will the slower development but more abiding love of the English.

Mr. Hutchins' remarks on the Sweet Pea in America were both interesting and instructive, and they showed throughout with what regard Mr. Eckford was held on the great American continent. He made reference to varieties raised there as well as in England, and constantly looked forward to still greater improvements being made in the future. He hoped that the culture of this favourite flower would spread in both countries, and concluded by saying that while he felt that he had come to England to see the Sweet Pea at its best he was sure that they also must visit America to see it at its best. So evenly was the balance swung that this was the conviction at which he was forced to arrive. Mr. Hutchins' paper occupied an hour in the reading and was embellished by many interpellations; it was of peculiar interest, but did not evoke material discussion.

Report of the Bicentenary Show.

The subjoined report of the competitive classes at this great Sweet Pea festival will convey to our readers some slight idea of the magnitude of the gathering. It is more than probable that if there be instituted a Sweet Pea society, as seems very likely, the exhibitions would develop more quickly than those devoted to any other special show has done, and that the Rose, which has hitherto been regarded as the principal summer exhibitions at the Crystal Palace, would find a serious rival in the homely and fragrant Sweet Pea.

Amateurs' Special Classes.

In the class for 100 bunches of Sweet Peas in the following ten shades of colour—dark blue, sky blue, rich purple, blue and purple striped, brilliant scarlet, carmine and white, pink and rose, scarlet striped, primrose yellow, and white—set up tastefully with any appropriate light foliage, the bunches to be shown in vases, there were

seven entries, and the class was most imposing. The premier award went to Mr. Peter Blair, gardener to the Duke of Sutherland, Trentham, Staffs, who exhibited some magnificent flowers, particularly rich in colour, and of excellent form and substance. Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Glendaragh, Teignmouth, was second. The flowers were of the most excellent quality, but the arrangement was not so graceful as was the case in one or two other instances; there was, too, rather a superabundance of grass. Mr. F. Ackland, gardener to A. G. Hayman, Esq., Hapford House, Frome, was placed third, and Mr. R. Warren, gardener to Mrs. Geo. Gosling, Stratton, Andley Park, Bicester, was fourth. Speaking generally, the flowers in this class were of superior quality to those customarily found. The prizes were presented by Messrs. Sutton & Sons, Reading (fig. 22, page 83).

Mr. E. Beckett, gardener to Lord Aldenham, Elstree, secured the chief of the coming of age prizes offered by Mr. Henry Eckford. The class was to commemorate the fact that it is twenty-one years since Mr. Eckford commenced to cross-fertilise Sweet Peas, and it was for forty-eight bunches, in not less than thirty-six varieties, and not more than two bunches of one variety, set up tastefully with any appropriate light foliage, the bunches to be shown in vases. Blanche Burpee, Senator, Salopian, Her Majesty, Black Knight, Gorgeous, Countess of Radnor, Lady Beaconsfield, Wawona, Mrs. Sankey, Firefly, Duke of Westminster, Chancellor, Emily Henderson, Queen of the Isles, New Countess, Duke of Sutherland, Stella Morse, Empress of India, Countess of Lathom, Royal Rose, Navy Blue, Lady Mary Currie, Lemon Queen, America, The Queen, Countess of Powis, Princess of Wales, Celestial, Primrose, Splendour, Calypso, Mrs. Dugdale, Blanche Burpee, Gaiety, Lord Kenyon, Duke of Clarence, Hon. F. Bouverie, Lady Grisell Hamilton, Mrs. Jos. Chamberlain, Duchess of Westminster, Mikado, Maid of Honour, Golden Gleam, Purple Prince, Venus, Mrs. Fitzgerald, and Fascination. Mr. Percy Waterer, Fawkham, was an excellent second with several varieties in particularly fine form. This stand was admirably arranged. Mr. Peter Blair was third with a bright collection; and Mr. W. Simpson, gardener to R. C. Forster, Esq., The Grange, Sutton, Surrey, fourth. There was far too much Gypsophila employed in this stand. There were eight competitors in the class. Mr. Beckett won the Carter cup with his first prize collection in this class.

The prizes for twenty-four bunches of Sweet Peas, distinct varieties, to be set up tastefully in vases with any appropriate foliage, were presented by Messrs. Webb and Sons, and there were no less than twelve entries. The first prize was awarded to Mr. F. J. Clark, gardener to Mark Firth, Esq., Wiston Hall, Leicester. The varieties were Prince of Wales, Navy Blue, Black Knight, Prince Edward of York, Lady Nina Balfour, Chancellor, Duchess of Sutherland, Princess of Wales, Countess of Radnor, Mars, Blanche Burpee, Queen Victoria, Aurora, Emily Eckford, Boreatton, America, Lovely, Venus, Triumph, Monarch, Sadie Burpee, Blanche Ferry, Lady Mary Currie, and Lottie Hutchins. Mr. P. Blair was second with a rather flat exhibit; the best bunches were Mars, Salopian, Captivation, Mrs. Eckford, Stanley, and Lady Mary Currie. Mr. W. Howe was third, and Mr. T. Stanton, gardener to Mrs. Blackburn, Syon Hill Place, Bath, fourth.

Open to All.

Ten collections were placed before the judges in the class for thirty-six bunches in not less than twenty-four varieties, and not more than two bunches of one variety. In this class Sweet Pea foliage only could be employed, which might include unexpanded flower buds, the bunches to be shown in vases. Messrs. Hurst & Son presented the prizes in this class. Mr. Robert Bolton, Warton, Carnforth, was placed first. The splendid flowers of this grower were borne on grand footstalks. The varieties were Chancellor, Navy Blue, Gaiety, Royal Rose, Prince of Wales, Sensation, Gorgeous, Countess of Lathom, Countess of Radnor (2), Colonist, Countess of Shrewsbury, Duke of Westminster (2), Senator, Prima Donna, Lady Mary Currie, Queen Victoria, Lady Grisell Hamilton, Lovely (2), Fashion, Othello, Triumph, Lottie Hutchins, Emily Eckford, Sadie Burpee, Prince Edward of York, Salopian, Chancellor, Hon. F. Bouverie, Mars, Mrs. Eckford, Black Knight (2), and Countess of Powis. Messrs. I. House & Son, Westbury-on-Trym, were second with bunches of somewhat smaller flowers, which were of excellent colour. Messrs. Hinton Bros. were third, but the arrangement was not equal to several exhibits in the exhibition. Messrs. Jones and Son, Shrewsbury, were placed fourth.

Messrs. Cooper, Taber & Co. guaranteed the prizes in the class for one bunch each of the three best white, three best scarlet, and the three

best blue Sweet Peas, distinct varieties, arranged with Sweet Pea foliage. There were eight contestants, and Messrs. I. House & Son were easily first with Snowdrift, Blanche Burpee, Sadie Burpee, Salopian, Gorgeous, Mars, Lady Grisell Hamilton, Countess Cadogan, and Navy Blue, all in fine condition. Mr. P. Waterer was second with good flowers not artistically staged. Mr. R. Chamberlain, The Gardens, Cressingham Park, Reading, third, with superb flowers, and Mr. W. Smith, gardener to S. Gardiner, Esq., Harrow, fourth. Through some confiction in the wording of the schedules Mr. Chamberlain was somewhat in error in his staging, and on his protesting against the judges' decision, and pointing out that he had followed the wording of the class, the exhibits were re-judged, but we could not learn with what result.

In the class for twenty-four bunches of Sweet Peas, in not less than eight varieties, and not more than three bunches of one variety, selected from the American varieties. The prizes were presented by Messrs. W. Atlee Burpee & Co., Philadelphia, U.S.A., and five competitors staged in this most interesting class. Mr. E. Beckett secured the first position with a well displayed exhibit. The varieties employed were Maid of Honour, Stella Morse, Fashion, New Countess, Modesty, Juanita, Oddity, Grey Friar, Brilliant, Pink Friar, Sensation, Ramona, Wawona, Daybreak, Lottie Hutchins, and Navy Blue. Messrs. I. House and Son were second, Mr. R. Bolton third, and Mr. P. Waterer fourth.

For three pots or pans of Cupid Sweet Peas Mr. P. Waterer was the only exhibitor, and was awarded third prize. The second prize only was awarded for one pot or pan of Cupid Sweet Pea, this going to Mr. P. Waterer for a good example of Countess of Radnor. The same exhibitor also received the second prize for a pot of Burpee's bush Sweet Peas with Monarch.

The class for eighteen bunches of Sweet Peas, distinct, set up tastefully with any appropriate light foliage, to be shown in vases, for the prizes presented by Messrs. W. H. & L. Collingridge, brought forth eight competitors. Messrs. I. House & Son were first with bunches tastefully arranged in Asparagus. The varieties were America, Captivation, Blanche Burpee, Gorgeous, Eliza Eckford, Salopian, Colonist, Celestial, Othello, Duchess of York, Captain of Blues, Prince of Wales, Lady M. Currie, Primrose, Emily Lynch, Dorothy Tennant, Countess of Powis, and Duke of Westminster. Mr. F. G. Foster, Brockhampton, was second with a good display; Mr. E. Beckett was third, and Mr. W. E. Reeve, Maybury Road, Woking, fourth.

In the class for eighteen stems of Sweet Peas of any varieties having the greatest aggregate of expanded blossoms, the prizes awarded by Mr. Ernst Benary, there were eighteen competitors, and the first prize was awarded to Mr. F. G. Foster with Golden Gate, the second going to Messrs. Jones and Sons with a variety of colours; the third prize could not be found.

Special Colour Classes.

The prizes in the three following classes were given by M.M. Vilmorin-Andrieux & Co. For any dark variety, maroon, deep bronze, or purple, there were nineteen entries, the majority being of good quality. The first prize was awarded to Messrs. I. House & Son, Westbury-on-Trym, for Black Knight; Mr. G. Prebble, Shirley, Croydon, was second with Stanley; while Mr. R. Chamberlain, Reading, was third with Boreatton; and Mr. Robert Bolton, Carnforth, fourth, with Shazada. For one bunch of any pink coloured variety there were no less than twenty-three competitors, but Mr. H. G. Foster was again to the fore with a superb bunch of Lovely; Messrs. I. House & Son were second with Catherine Tracey; the third prize was allotted to Messrs. Jones & Sons for Lovely, while Mr. P. Waterer brought up the rear with the same variety. There were seventeen entries in the class for any rose coloured variety. The first prize was allotted to Mr. A. H. Needs for a grand sample of Lord Kenyon; Messrs. Jones & Son were second with Mrs. Dugdale, while Mr. F. G. Foster made a good third with Royal Rose Improved, and Mr. E. Ryman came fourth with Oriental in fine form.

Mr. Ernest H. Krelage presented the prizes for one bunch of any scarlet or crimson variety, and there were fifteen entries. Mr. High Aldersey was placed first with Salopian; Mr. P. Waterer was a capital second with Mars; while Mr. E. Ryman followed with Firefly, and Messrs. Jones & Sons brought up the rear with Salopian.

There were seventeen entries in the class for one bunch of any erect standard variety. Messrs. I. House & Son were placed first with Mrs. Dugdale; the second place fell to Mr. P. Waterer for a grand exhibit of Triumph; Messrs. Hinton Bros., Warwick, were third, and Mr. E. Wilkin fourth, with the same variety. The hooded section did not call forth such a fine display, there being ten entries. The first place was awarded to Messrs. I. House & Son for a beautiful example



FIG. 20.—MR. HENRY ECKFORD.

of Countess of Lathom, while Messrs. Hinton Bros. made a good second with F. A. Hinton; Mr. P. Waterer was third with Lady G. Hamilton, and Mr. R. Bolton fourth with The Shazada. The prizes in this and the preceding class were presented by Messrs. H. Cannell & Sons.

Mr. R. Wilson-Ker provided the prizes for a bunch of any deep blue or violet variety. Ten exhibits were staged, but two of them were anything but the desired colours. Mr. H. Aldersey was first with a good vase of Duke of Westminster. Mr. E. Ryman came next with Black Knight, which was neither blue nor violet, while Messrs. I. House & Son were third with Navy Blue, and Mr. R. Chamberlain fourth with Dorothy Tennant. Mr. H. Deverill offered the prizes for one bunch of any yellow or primrose variety, in which there were seventeen entries; the first prize was awarded to Mr. Hugh Aldersey, Aldersey Hall, Chester, for a fine bunch of Queen Victoria; Mr. F. G. Foster, Brockhampton, was second with Cream of Brockhampton; and Mr. P. Waterer third with Queen Victoria.

Messrs. Carter Page & Co. provided the prizes in class 21, for a bunch of any pale blue, mauve, or lavender variety; the entries numbered seventeen. Mr. Robert Bolton, Carnforth, was first with a fine bunch of Lady Grisell Hamilton; Messrs. I. House & Son, Westbury-on-Trym, followed with the same variety; Mr. Thos. Bolton, gardener to Mrs. Weguelin, Coombe End, Kingston, was third; and Messrs. Jones & Son, Shrewsbury, fourth, both staging the same variety.

The class for any white variety, prizes by Messrs. Barr and Sons, brought out a capital entry of twenty bunches, and Mr. Hugh Aldersey was to the fore with a splendid bunch of Sadie Burpee; Messrs. I. House & Son were second, staging the same variety; the Rev. L. Knights-Smith, Rudcote, Brightstone, Isle of Wight, third, still with Sadie Burpee; while Mr. W. Howe, Park Hill, Streatham Common, brought up the rear with a good display of Sutton's Giant White.

Messrs. Laxton Bros. were responsible for the prizes in the class for any blush or flesh coloured variety, a class that brought out thirteen entries. The first prize was awarded to Mr. E. Ryman, gardener to C. Sopper, Esq., Belle Vue, Reigate, for a charming exhibit of Lottie Hutchins; the second fell to Mr. R. Bolton for a charming bunch of Venns. Mr. H. A. Needs, Woking, followed with Mrs. Fitzgerald, and Mr. Hugh Aldersey came fourth with the same variety.

In the class for a bunch of any dark striped or flaked variety there were fourteen entries. In this class the best flowers were disqualified for adding grasses and other decorative subjects, the first prize ultimately being awarded to Messrs. I. House & Son for a good bunch of America. Mr. L. H. Halling was second with Princess of Wales, Mr. E. Wilkin, Dalton-on-Tees, Darlington, was third with Ramond, and Mr. Alex. Smith, the Convent Gardens, Roehampton, fourth with Senator. In the class for a bunch of any light striped or flaked variety there were ten entries. The first prize was allotted to Messrs. I. House and Son for Pink Friar. Mr. R. Chamberlain followed with a lovely bunch of Aurora, while the third prize was awarded to Mr. W. H. Apthorpe, Cambridge, for Suttons' Striped, while Mr. A. H. Needs was awarded fourth place for Gaiety.

Amateurs Employing One Gardener.

The competition was capital in the class for amateurs employing one gardener only. Messrs. Fidler & Sons, Reading, provided the prizes in the class for eighteen bunches, distinct varieties, to be set up tastefully in vases with any appropriate foliage, no less than five collections being staged. Mr. T. Aldersey, The Hermitage, Shrewsbury, was awarded first for a good display. The varieties were Countess of Powis, Salopian, Queen Victoria, Sadie Burpee, Lady G. Hamilton, Prince of Wales, Duchess of Westminster, Mrs. Dugdale, Countess Cadogan, Gorgeous, Emily Eckford, Mrs. Fitzgerald, Chancellor, Othello, Hon. F. Bouverie, Triumph, Blanche Burpee, and Duke of Westminster. Mr. F. Ackland, gardener to A. G. Hayman, Esq., Hapford House, Frome, was second with good specimens of Her Majesty, Triumph, Duke of York, Sultan, Royal Navy, Prince of Wales, and Lovely. Mrs. F. M. Sich, Englefield, Cookham, was third with nicely displayed bunches, and Mr. G. Hughes, gardener to H. T. Michels, Esq., Kingston, was fourth with a pretty collection.

Messrs. Toogood & Sons, Southampton, presented the prizes in the class for twelve bunches, distinct varieties, to be set up in their own foliage, which included unexpanded flower buds. Three exhibitors staged, the first place being awarded to Mr. E. Ryman for a collection of capital quality, and well staged. The varieties were Blanche Ferry, Lottie Hutchins, Firefly, Lovely, Emily Eckford, Triumph, Captain of the Blues, Oriental, Countess of Powis, Countess of Radnor, Meteor, and Blanche Burpee. Mrs. F. M. Sich was a good second with capital examples of Her Majesty, Countess of Lathom, Countess of Powis, and Navy Blue; and Mr. G. Hughes third with a smaller display, though the blooms gave evidence of substance.

Amateurs not Regularly Employing a Gardener.

Next came the classes devoted to amateurs who do not regularly employ a gardener, and Mr. R. Sydenham provided the prizes in both classes with his usual generosity; this contained twelve collections. The first prize was allotted to Mr. Thos. Aldersey for a beautiful collec-

tion, arranged tastefully with Gypsophila and Grasses. The varieties were Prima Donna, Salopian, Countess of Radnor, Blanche Burpee, Prince of Wales, Navy Blue, Black Knight, Prince Edward of York, Hon. F. Bouverie, Queen Victoria, Lady Mary Currie, and Venns (fig. 21, page 79). The second prize went to Mr. J. D. Powell, Theydon Bois, for a good collection, in which were Prince of Wales, Lady Mary Currie, Lady Grisell Hamilton, Duchess of Sutherland, and Venns. Mr. P. C. Durrant, Woodside, Petersfield, was a good third; and Mr. R. H. Jeffery, Nursling, Southampton, fourth.

For six bunches of Sweet Peas, distinct varieties, to be set up tastefully in vases with their own foliage only, there were twelve competitors, and Mr. J. D. Powell was a splendid first; the varieties were Crown Jewel, Black Knight, Countess Cadogan, Prince of Wales, Mrs. Eckford, and Mrs. J. Chamberlain. Mr. A. Taylor, 5, Vernon Terrace, East Finchley, was second with a good exhibit. Mrs. S. E. Burgess, Brentwood, was third, and Mr. F. J. Wright, Finchley, brought up the rear.

Floral Decorations of Sweet Peas.

The chief class was for a table of Sweet Peas, illustrating the different methods in which the flower can be utilised for decorative purposes. A table 12 feet by 6 feet was provided, and the exhibits might consist of baskets, wreaths, posies, crosses, and anchors, to be arranged in any way the taste of the exhibitor may suggest. The competition brought out seven contestants, and the first prize fell to Messrs. Jones & Son, Shrewsbury, for an artistic display of baskets, bouquets, and various other floral devices. The bouquets and baskets were of a superior order, and contained a great variety of designs. Mr. Norman Davis, Framfield, was second with a distinct style. The baskets and vases were well executed, but the taller arrangements did not suit the flower, which was only seen hanging upside down. Mr. H. Anstey, Knight Hill Road, West Norwood, was a good third; and Mr. L. H. Calcut, Stoke Newington, came fourth with a light arrangement that was hardly suitable for the position.

For a decorated dinner table, 6 feet in length by 4 feet in width, arranged with Sweet Peas and their foliage only, which might include unexpanded buds. This proved to be a most popular class, containing no less than fourteen entries. Miss C. B. Cole, The Vineyard, Feltham, was first with an arrangement of Meteor, lightly and elegantly displayed. The second position was allotted to Mrs. W. Green, jun., Harold Wood, for a well executed design in a variety of colours. Mr. Arthur Edwards was third with a pretty arrangement of Chancellor, and Mrs. S. C. Burgess, Brentwood, fourth, with blush varieties.

Mr. H. J. Jones provided the prizes in the class for an epergne or other suitable stand of Sweet Peas for dinner table arranged with any light appropriate foliage. The exhibitors numbered fourteen, and some of the exhibits were excellent. The first prize was awarded to Mr. R. Chamberlain for a light arrangement of white, pink, and lavender, with nice foliage. Miss Cole followed with an epergne of cream and rose Peas, while Mrs. W. Green, jun., was third, and Mr. Robert H. Jeffrey fourth.

The competition in the class for a basket of Sweet Peas suitable for drawing-room decoration, the competition was keenly contested by a large number of competitors, no less than seventeen entries being staged, Mr. E. Ryman obtaining the coveted award for a charming arrangement of Lady Mary Currie with Asparagus Fern and Gypsophila. Miss C. B. Cole, followed with a charming arrangement of light varieties and suitable foliage, while Mr. S. Calcut was third, and Miss Easterbrook, Fawkhams, fourth.

For a bouquet of Sweet Peas, arranged with any appropriate light foliage, there were seven entries; the first prize falling to Messrs. Jones & Son for an effective arrangement. Miss C. B. Cole was second with an arrangement of heliotrope, with pretty light foliage; Mrs. Bawtree, The Downs, Sutton, was third; and the Misses Boff, Islington, fourth.

Miscellaneous Exhibits.

Messrs. Dobbie & Co., Rothesay, staged a grand display of Sweet Peas. The back of the exhibit was composed of gigantic bunches in great variety, while the front was composed of boards, on which were grouped each colour in their several sections, the whole being most tastefully displayed with Grasses and Ferns. A truly grand exhibit, and which undoubtedly deserved the honour of the gold medal bestowed. Messrs. Jones & Son, Shrewsbury, arranged a good collection of Sweet Peas in vases, arranged with Asparagus, Grasses, and Ferns. The flowers were all of good substance and delightfully fresh (large silver medal). Mr. F. A. Roscoe, Steeple Marden, Royston, had a large collection of varieties arranged on a table, but the exhibit was somewhat marred by the flatness.

A delightful display of Sweet Peas was that made by Messrs. J. Carter & Co., High Holborn, which was arranged chiefly for an artistic effect—an end that was undoubtedly achieved. The huge brackets containing the mixed varieties interspersed with Asparagus and Gypsophila, while the front of the table was occupied with a collection grouped according to their respective colours. Mr. F. G. Foster, Brockhampton Nurseries, Havant, had an exhibit arranged in his well known style, in which all the newer varieties were present. From Mr. F. C. Fowle, Teignmouth, also came a pretty display, beautifully arranged in their respective colours, accompanied with Grasses on a groundwork of Smilax.

Asparagus plumosus, and A. Sprengeri (small silver medal). Messrs. Fidler & Sons, Reading, had an extensive exhibit which was somewhat crowded, but the quality and variety of the flowers left little to be desired (large silver medal). Messrs. B. S. Williams & Son, Upper Holloway, also had a capital display, the bunches being arranged to advantage, in fact they were beautifully set up, while the collection was most comprehensive (large silver medal).

The Swanley firm of Messrs. H. Cannell & Sons contributed a large table, which included nearly all the old and new forms. Needless to say they were well arranged, though it was a pity the exhibit had to be split up into so many groups; at the same time the exhibit deserved in every respect the gold medal bestowed. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a large semicircular group at the extreme end of the nave, the back being composed of a series of arches, all tastefully arranged. The centre was occupied with a unique collection of varieties in pots, all dwarf and in good condition, being flanked on either side with masses of flowers in vases, the whole group being well arranged

display of hardy flowers, Sweet Peas, and a good collection of Carnations (large silver medal). Mr. J. Aplin, gardener to W. M. Baxter, Esq., Hasfield Court, Gloucester, had a pretty collection of Sweet Peas, for which he was awarded a large silver medal. Messrs. Dicksons, Chester, had a huge table of Sweet Peas in a large number of varieties, that were staged in first-class condition (silver-gilt medal). Messrs. E. W. King & Co. Coggeshall, staged 126 varieties arranged with their own foliage, and a fine display they made (large silver medal).

Mr. B. Ladhams, Shirley, Southampton, had a pretty collection of hardy flowers, in which the new *Coreopsis grandiflora* Eldorado, formed a shining light; the *Gaillardias* were also conspicuous (silver-gilt medal). Mr. H. B. May, Dysons Lane Nurseries, Upper Edmonton, was represented by well grown plants of *Campanula isophylla* Mayi, which were much admired. Mr. Henry Eckford, the Sweet Pea veteran, was accorded a place of honour, and worthily did he fill it with a grand collection of varieties arranged in tall specimen glasses, for which he was awarded a gold medal.



FIG. 21.—THE ROBERT SYDENHAM CLASS—MR. THOS. ALDERSEY'S PRIZE EXHIBIT.

with Ferns in variety, with a few Palms and variegated Acers (gold medal). A good collection was that staged by Mr. L. J. Ching, Forty Hill, Enfield; the bunches were prettily displayed, and the collection comprehensive (fig. 24, page 87).

As might have been expected, Messrs. Hurst & Sons made a grand display of Sweet Peas, arranged in Hyacinth glasses, in which they were well displayed. The bunches were large and in the pink of condition. It is unnecessary to enumerate the varieties, for all the most prominent in commerce were represented (gold medal). Messrs. Harrison & Sons, Leicester, contributed a good collection of Sweet Peas, and also staged a fine collection of culinary varieties (small silver medal). Messrs. Barr & Sons, Covent Garden, arranged a grand exhibit of hardy flowers, the *Liliums*, *Coreopsis*, *Gaillardias*, *Pentstemons*, and *Poppies* contrasting well with the rest of the exhibition. The same firm also staged culinary Peas and Butter Beans (large silver medal).

Messrs. Webb & Sons, Stonbridge, had a charming exhibit of Sweet Peas arranged with *Smilax* and *Asparagus Fern*. All the best varieties of Sweet Peas were to be seen, and the award of a silver-gilt medal was richly deserved. Messrs. J. Peed & Sons, Norwood, had an extensive

London Colonies—Lord Rosebery has a pretty idea for relieving the congestion of London. He suggests that the Council should make a workmen's colony out in the country, where the skies are blue, the grass green, the air fresh, and eggs twenty-four a shilling. The artisan is to come to London for his day's work, and return in the evening to tend the Cabbages and feed the pig and discuss politics at the local tavern. His family will have the benefit of country air, he himself the peaceful quiet of the rustic evenings. The trains are to be so quick that he will lose no time to speak of, and so cheap that he will save the cost of them out of the rent and the household bills. So that he shall remain a Londoner, the colony is to be attached to the County Council area. The colonist will be a sort of country member of the metropolis, with his house in the green fields and his name in the London voters' list. It is idyllic, and sounds impracticable. But the scheme, or something like it, may be tried in course of time. The City has driven out its sleeping population, and parts of London county may follow suit. If the workers cannot live within London they must live outside. Necessity will settle the transit difficulty, as it has settled so many others.

NOTES & NOTICES

Recent Weather in London.—Though we have not had a repetition during the past few days of the extraordinary heat of Monday, the 16th inst., the Metropolis continues oppressively hot. Every day the shade temperature exceeds 80°, and everyone is more or less bathed in perspiration. The terrific thunderstorms that have prevailed in many parts of the provinces have not visited London yet, but there are daily indications. Nothing beyond a few heat drops have fallen for several days.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, July 31st, in the Drill Hall, James Street, Westminster, when special prizes will be offered for Cacti. A lecture on "Cherries and Plums" will be given by Mr. H. Somers Rivers at three o'clock.

A Glut of Bush Fruit.—Owing to the heavy crops of bush fruit this year, says the "Sheffield Daily Telegraph," the South Lincolnshire markets are glutted, particularly with Gooseberries, which are selling as low as 4d. and 6d. a stone. Some markets have been so greatly overstocked that quite 50 per cent. of the supplies have been returned as unsaleable. It is feared that Plums will be equally as bad a trade, as the crop this year is one of the heaviest known.

American Apple and Peach Crop.—The condition of the Apple crop in the United States is officially reported to be exceptionally good. It is stated that the whole of the fourteen States, having 3,000,000 or upward Apple trees in bearing at the last census are considerably above their ten-year averages. The present prospects of the Peach crop are described as nothing less than phenomenal, almost every important Peach-growing State reporting a condition far above the average.

Potash for Potatoes.—In the experiments which have been in progress for some years past in connection with the Agricultural Department of the Durham College of Science, at Newcastle-on-Tyne, it has been found that as a source of potash for Potatoes, muriate of potash has given distinctly better results than kainit. In almost every case in which it was tried the results from the muriate were better than those from the kainit. The net advantage in favour of the muriate was, it is true, comparatively small, but still it was something, and conclusively showed that better results can be obtained with muriate of potash as a potassic dressing for Potatoes than with kainit.

In the Markets.—There is at present an abundance of vegetables and of fruit. Warrington Gooseberry and the common red are on sale almost everywhere at 2d. a pound; very fair white English Cherries can be had at 4d.; English Grapes range from 1s. to 3s. a pound; and Muscats can be had for 4s. Spanish Melons at 6d. each are within the reach of most people, and those who aspire after a higher quality may have English grown and French Rock Melons at anything from four to eight times as much. Peaches and Nectarines at 2s. to 4s. a dozen are also plentiful. The large consignment of Californian Pears made the Central Hall at Covent Garden busy recently, and with them came some really choice Oregon Plums, the forerunners of what is likely to be a heavy season.—("Daily Express.")

Gardening under Difficulties—Mr. J. H. Stephen, superintendent of the Government Horticultural Gardens, Nagpur, in the Central Provinces, writes to "Indian Gardening" under date June 18th: "Just a few lines to tell you of the difficulties we have passed through this hot weather. During March, April and May the heat was most intense, and you may be sure that gardening was rather uphill work. To make matters worse, our tank, which supplies the garden with water, ran dry, and then we had only two wells to help us along, these only give us enough of water to keep pot plants and ground shrubs alive. We have lost nearly all our well established Orange trees, a few large grafted Mango trees, all our Casuarinas died, an avenue of Cypress, besides numbers of shrubs. However, we can replace the most of them as our nurseries are all right, but it will take years before the garden again recovers itself. The weather still remains hot and dry, and there is no sign of rain."

To Garland Dull Windows.—A flower show in connection with the St. George's-in-the-East Window Gardens Association was opened recently by the wife of the chairman of St. George's Vestry. Out of 600 plants given out to members for cultivation over 300 were exhibited in flower.

The Hampton Court Vine.—The famous Vine in the gardens of Hampton Court Palace is looking as healthy as ever, and has a crop of some 1200 bunches of Grapes. The vigour of this Vine is really remarkable, but much of the excellent condition must be credited to the treatment to which it is subjected.

The Food Value of Rice and Bananas.—In India, China, Japan, and adjacent countries are about 400,000,000 people, strong, active, and long-lived, who eat no meat. The porter on a daily ration of rice and Dates will jog along with bent back under a load that would crush a western man. Darwin tells us that the Andean natives do a day's work of 400 foot tons, nearly twice the work of an ordinary labourer, on a diet of Bananas.

Medicinal Value of the Honeysuckle and Morning Glory.—Along one of the side streets of Philadelphia, near the Reading Terminal, the passer-by may be attracted to a modest and well-worn show case filled with samples of various wares of an "Herb Doctor" that are calculated to cure about all the ills to which the human body may be subject. Judging by the labels attached to the various mixtures, and by the cards soliciting their use, the "Doctor's" illiteracy is about as strong as his medicine, and will be certain to cure anyone too ill to laugh. One of his most prominent prescriptions is Honeysuckle and Morning Glory, which is held as a sure cure for asthma and colds generally.—("Meehan's Monthly.")

The Flower Trade in India.—The trade of the florist, pure and simple, is a very ancient one in India, where the sale of flowers has been carried on as a profession for ages. A visit to the native quarter of Calcutta, or any large town in India, will show how far this profession of the florist is carried on. In Calcutta we have the Municipal Market where flower stalls on the European model are fairly numerous. Some of the proprietors of these stalls own gardens up the line of railway, whence consignments of flowers are daily received. That the profession is a lucrative one admits of no doubt. The trade is as yet confined to natives; but there is no reason why Europeans should not take to it. Last cold season the demand for flowers exceeded the supply, and record prices were paid for bouquets 150 rupees being demanded and paid for a single bouquet for Lady Curzon's drawing room.—("Indian Gardening.")

Importation of Plants.—A complaint has been made, says the "Times," by a correspondent that postal packets containing plants tendered at Swiss post offices for transmission to England were being refused on the ground that the plants would not be permitted to enter England, the secretary of the Royal Agricultural Society of England placed himself in communication with the Board of Customs on the subject, and has now received the following reply:—"Custom House, London, June 30th, 1900. Sir,—I am directed by the Commissioners of Her Majesty's Customs to inform you, in reply to your letter, dated the 25th inst., that, so far as this department is concerned, there is no objection to the importation of plants from Switzerland. A representative of the Swiss Consulate who has been interviewed by an officer of this department on the subject, states that there are no regulations governing the exportation of plants from Switzerland, adding that he had seen statements in the newspapers to the effect that the English Post Office was refusing to receive flowers from certain places abroad, and mentioning Cannes as one of the places coming under these restrictions. So far as the Swiss Government is concerned, there is no impediment to this traffic at the frontier. From inquiries which have been made at the General Post Office, it appears that there are no restrictions imposed by that department upon the transmission of plants and flowers from abroad, either through the parcel post or the letter post, but that flowers are refused when tendered for transmission through the sample post. Some time since an arrangement was made, in the interests of growers in the South of France, under which flowers were admitted through the sample post; but at the last Postal Convention it was agreed that this concession should not be continued. The revised regulation has resulted in the refusal of a large number of packets presented for transmission as samples, and the impression seems to have been made on the public mind that the importation of flowers through the post is not allowed. I am, sir, your obedient servant—R. HENDERSON. Sir Ernest Clarke."

Heat and Honey.—Great losses have been sustained by Kentish bee-keepers, owing to the intense heat having run the honey from the comb, making it useless and smothering many swarms of bees. It has been quite impossible to make hay while the sun shone in Bedfordshire and Bucks. Gangs of men, women, and children had to rest by day and work by moonlight. Large fields of hay were fired, and farm horses dropped dead.

Shirley Gardeners' Association.—The monthly meeting was held on Monday, 16th inst., in the Shirley Parish Room. Between twenty and thirty members were present. A large number of Roses were displayed by Mr. Ladhams, F.R.H.S., of the Shirley Nurseries; by Messrs. Rogers, Ltd., Red Lodge Nurseries; by T. W. Fleming, Esq. (gardener Mr. W. Mitchell); by Col. Sinkins (gardener Mr. E. T. Wilcox). Among the exhibits was a very fine bough of Crimson Rambler from Mr. Ladhams, which excited much attention. Three prizes were offered for six Roses, Messrs. Miles, Hallet, and Thorne to be judges. The first prize fell to Mr. G. Verdon of Red Lodge; second to Mr. Mitchell; and third to Mr. Ladhams. To Mr. Verdon was also awarded a first-class certificate for the best Rose in the show; to Mr. Wilcox a certificate for Dahlias, and to Mr. Verdon for Sweet Peas. Mr. Ladhams opened a discussion on the Roses, and gave many useful hints on their culture. Messrs. Miles, Cleverly, Mitchell and Verdon took part. In conclusion Mr. Ladhams presented Mr. Curtis, the retiring hon. sec. with a silver teapot on behalf of the committee, for which Mr. Curtis returned thanks. Mr. John Miles was unanimously elected hon. sec. in succession to Mr. Curtis at a committee meeting held for that purpose on Friday evening, 13th inst.

Bournemouth Gardeners' Association.—The twelfth annual excursion of this society took place on Thursday, 12th inst., when about sixty members availed themselves of the opportunity of visiting the Royal Seed Establishment of Messrs. Sutton & Sons, Reading. The party were met at Reading station by two of Messrs. Suttons' staff, and conducted to the seed warehouses, where they were very cordially welcomed by Mr. Arthur Sutton, Mr. Leonard Sutton, and Mr. Hubert Sutton. After viewing the extensive warehouses and offices they mounted the conveyances which were in readiness, and were driven to the Portland Grounds, where they saw much to interest them in the various houses devoted to the culture of Gloxinias, Begonias, and other flowers that are made a specialty by this firm. They were then conveyed to the seed trial grounds, where an excellent lunch was provided, to which ample justice was done. Mr. H. Sutton, who presided, made a few appropriate remarks. The luncheon ended with a hearty vote of thanks passed to Messrs. Sutton for their kind and generous hospitality, followed by an inspection of some of the numerous varieties of flowers and vegetables grown for trial in the grounds. On returning to Reading the party visited some of the places of interest in the town, and then proceeded home, after passing a most enjoyable and successful day's outing.

Birmingham Gardeners' Association.—The annual summer "outing," to Powis Castle, took place on the 19th inst. Arriving at Welshpool, *viâ* Shrewsbury, about half-past eleven o'clock the party was met by Mr. J. Lambert, the Earl of Powis's head gardener. The entrance gates of the park are in close proximity to the town, and the castle upwards of a mile distant. The visitors were much impressed with the magnificent arboreal scenery. The terraced hanging gardens, carved out of the rock on which the castle stands, and laid out in the Louis XIV. style, adorned with vases, statues, fine old clipped Yews, and Box hedges, were much admired. The extent of glass is comparatively small, but the occupants of the various structures reflected much credit upon Mr. Lambert's skill. The vegetables in the kitchen gardens were much admired, also the square acre of wire netting protected fruit quarter, containing very heavy crops of Gooseberries, Currants, Strawberries, and Superlative Raspberries. Another object of interest was the inspection of the newly erected, or rather the conversion of the ancient laundry into a suite of excellently fitted-up rooms for the journeymen gardeners. After viewing the interior of the castle brakes were requisitioned for a tour through the park and extensive game preserves, the journey extending to about five miles round a portion of the park. Mr. Addie, the estate agent, joined the tea party, and in the name of Lord Powis welcomed the members of the association. Hearty votes of thanks, severally proposed by Mr. Walter Jones, the chairman, and Mr. John Pope, to Lord Powis, Mr. Addie, and Mr. Lambert, were accorded, and immediately afterwards the return journey was resumed.—G.

The Midland Carnation and Picotee Society.—Owing to the very hot weather of the last few days it has been thought desirable to again alter the date of this Carnation show; it is now definitely arranged for the original dates—viz., the 1st and 2nd of August.

Open Spaces.—The Corporation of Croydon has secured Grange Wood at Norwood, and commenced negotiations for the purchase of Croham Hurst, which will involve a still larger outlay. It is reported that a member of the well-known Lloyd family in the suburbs of Walthamstow, has presented the Walthamstow Urban District Council with the fine mansion called The Winns, and 9½ acres of land attached thereto. The estate will be used—the house as a museum, the land as a recreation ground. These will be thrown open to the public some time in August.

Sandringham Flower Show.—Fine weather prevailed for the thirty-fifth annual show of the Sandringham Estate Cottage Horticultural Society on Wednesday, July 18th, and large crowds visited the grounds, which had been placed at the disposal of the society by their Royal Highnesses the Prince and Princess of Wales. The entries were numerous and of excellent quality. Prizes were offered by the Prince and Princess of Wales for the best kept cottage in the parishes around the estate, and also for the best kept and stocked gardens, while the society offered prizes in about one hundred classes. The table decorations were extremely pretty, though the simplest of flowers were employed.

Havoc at Northampton.—The hailstorm at Northampton on Friday evening almost surpasses belief. The roads were quickly white. The majority of the stones were more than an inch in diameter, and a large proportion an inch and a half. Some even measured 2 inches through. These, descending with astonishing violence, caused great destruction to property. In the Town Hall £50 will not cover the damage to glass alone. One market gardener estimates his loss at £500. Another puts his at £300. Three nurserymen's loss amounts to £1000. No less than 550 public lamps were smashed. Even roof slates and tiles were not always strong enough to withstand the fury of the storm.

Some Rainfall Averages.—It is said that 610 inches of rain fell in one year at Cherrapongee, tropical Asia. Two hundred and fifty-four inches of rainfall has been recorded in one year at Mahabuleswer, in the Western Ghats of India. At Vera Cruz, Mexico, 278 inches of rain has fallen. In Matoula, Guadeloupe, West Indies, 292 inches has fallen. At San Louis de Maraham, Brazil, 280 have been recorded. At Sierra Leone, tropical Africa, 312 inches have been noted. The annual rainfall in the British Islands, among the mountains, is 41 inches; on the plains 25 inches—45 inches of rain falls on the west side of England, 27 on the east side. Eighty-two inches of rain falls on parts of the west side of the Scandinavian mountains, and only 19 inches at Stockholm on the east side. The amount of rainfall at Boston is 39 inches; Hanover, N.H., 38 inches; New York, 36 inches.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
July.										
Sunday.. 15	S.S.E.	deg. 66.9	deg. 59.9	deg. 80.3	deg. 50.5	ins. —	deg. 67.2	deg. 63.3	deg. 58.1	deg. 41.5
Monday.. 16	W.N.W.	76.2	68.5	91.5	59.7	—	68.4	63.5	58.3	51.5
Tuesday 17	S.S.W.	70.9	60.9	81.8	59.5	—	70.0	64.1	58.7	48.8
Wed'sday 18	S.S.E.	75.0	64.8	84.1	54.3	—	70.5	64.7	58.9	45.5
Thursday 19	E.S.E.	78.7	67.5	91.1	51.5	—	69.9	65.2	59.1	40.6
Friday .. 20	S.S.W.	79.2	68.7	89.8	66.2	—	71.8	65.5	59.4	57.5
Saturday 21	W.S.W.	66.7	62.8	76.5	58.7	—	71.1	65.9	59.7	49.4
MEANS ..		73.4	64.7	85.0	57.2	Total —	69.8	64.6	58.9	47.8

A week of very hot dry weather, the temperature on the 16th being the highest registered this year, and the maximum shade temperature being 91° for each day.

Royal Horticultural Society.

Scientific Committee, July 17th.—Present: Dr. M. T. Masters (in the chair); Rev. G. Henslow, Hon. Sec.

Carnation Leaves Injured.

Leaves were received from Scarborough, upon which Mr. Douglas reported as follows:—"The three leaves seem to be scalded, but this might not have happened if the leaves had been healthy. They are not. The weather has been unfavourable to Carnations in some places. These may have been badly cultivated. Probably they had too much water, or insufficient ventilation. With ample ventilation, and the plants healthy, scalding does not take place. The eruption or raised process on the single leaf, is similar to what occurs on Vine leaves when the atmospherical conditions are bad—viz., too much moisture and too little ventilation. No plants suffer so much from insufficient ventilation as Carnations, and a moderately moist atmosphere is injurious. This may account for both the ailments in question."

Apple Tree Attacked by Caterpillars.

Specimens were received from Mr. Abbey, Avery Hill, Eltham, upon which Mr. McLachlan reports as follows:—"I only found one larva in the Apple shoots, and that appears to be some kind of tortrix. It is often hard to name these things without seeing the insects they produce. Apple trees just now are infested with larvæ of various kinds, and not the least destructive is that of the winter moth, but I do not see it in the box. Hand-picking is all very well in its way, but I should strongly recommend spraying the trees, if not too large, with some of the insecticides recommended in the gardening papers. It is late, but even now it might do good. As a rule two or three applications at intervals of a fortnight or so are necessary, and it should be done in dry weather. The solutions used in spraying are generally poisonous, but they do no harm to the fruit when in a young state, and they render the foliage deadly to insects hatching up from eggs laid on the trees. It soon disappears, but has done its work in the meantime. Spraying is used enormously in America; less so here. Of course some ordinary common sense care should be exercised, as with any poison."

Aster Seedling Diseased.

The following report was received from Dr. W. G. Smith on samples sent by Mr. Basham, Fair Oak Nurseries, Bassaleg, Newport, May 7th:—"This disease begins at the neck of the plant or below the ground, and travels upwards through the plant, producing as it goes discolouration and softening of the tissues. There is fungus growth on all discoloured parts, and I believe the mycelium is the cause of disease; it can be observed at the limit between discoloured and still green parts. Spores are produced of a oval form and colourless, a form which gives little assistance in identification. Nematode eelworms were also observed, but it is not easy to say what part they play; I should say they lived on the decaying parts. It should be mentioned that the Rev. Mr. Friend ("Gardener's Chronicle," August 14th, 1897) ascribes the Aster disease to a type of parasitic worm, but I did not observe this form. The cause of this Aster disease has not yet been satisfactorily cleared up in any papers I know."

Tulips Diseased.

Bulbs received from Mr. Maine, Penhill Close, Cardiff, were forwarded to Dr. Smith, who now reports as follows upon them:—"The plants received are infected with the Tulip Botrytis disease. The black bodies embedded in the bulb scales and dead leaves are the resting stages of a fungus which in its active stage has the form of

reproductive organs known as Botrytis. It is a common disease, and this year I have reported on several cases, especially on Narcissus. On June 2nd, in 'Gardeners' Chronicle,' I recommended a somewhat similar treatment to that found successful by your correspondent—namely, to lift the bulbs after the flowering season, keep them in a dry place, or in some mixture of lime or sulphur, and to treat with sulphur before replanting. There seems to be no other way open to deal with this type of fungus. The disease evidently occurs on certain kinds of soil, but exactly what kind I cannot say yet."



FIG. 22.—THE SUTTON PRIZEWINNERS—MR. P. BLAIR, MR. G.

Strawberry Leaves Diseased.

Mr. G. Lee sent some leaves attacked by the fungus *Sphaerella fragariae*, "Strawberry leaf blight." It is a very destructive disease recorded from all parts of the United States (illustrated, in "Diseases of Plants," Tuleuf & Smith, p. 215).

Dahlia synanthic Sport.

Mr. Evan Davies, Talsarn, Bromley, Kent, sent a remarkable specimen of twin Dahlia blossoms united back to back on coherent flower stalks. One blossom was yellow with crimson centre, the other entirely crimson. Which was the sport was not stated, but probably the latter.

Hardy Border Flowers.

I HAD recently occasion to look up a reliable book of reference of recent publication for some information regarding this genus of useful garden plants. It contained a longer list of names of plants than I had expected to be told were still "generally grown." I fear I cannot agree with the writer of the article, as one may go into many good gardens of hardy flowers without meeting with a solitary representa-

2½ to 5 feet high. It has rather pubescent leaves, which, like the flowers, resemble others of the family of Leguminosæ. It is a remarkably distinct plant for the border. It comes from Siberia, and was introduced as far back as 1737. *A. alpinus*, a native species, is of a prostrate character, and has bluish flowers in drooping, short racemes. It has hairy, ovate leaflets. *A. argentens*, a silvery foliaged plant, has bluish-purple flowers in spikes which come from the axils of the leaves. It grows from 6 to 12 or 14 inches high. *A. hypoglottis* and its variety *albus* are native plants which are not very

rare in rock gardens, and are usually to be had from dealers. The typical plant has nice little heads of blue and white flowers and rather dark green leaves. Its variety *alba* is similar, with the exception of having white blooms. I find that slugs are very partial to this plant. *A. monspessulanus* is a good plant of evergreen, trailing habit. It has purple flowers, and ovate or lanceolate, greyish leaves. Although procurable, it appears to be less plentiful than it was some time ago. *A. purpureus* has purple flowers in round-headed spikes, and grows from 8 to 12 inches high. *Astragalus Robbinii* is a North American species which has been recently offered. It grows from 9 to 18 inches high, and has white or purple flowers.

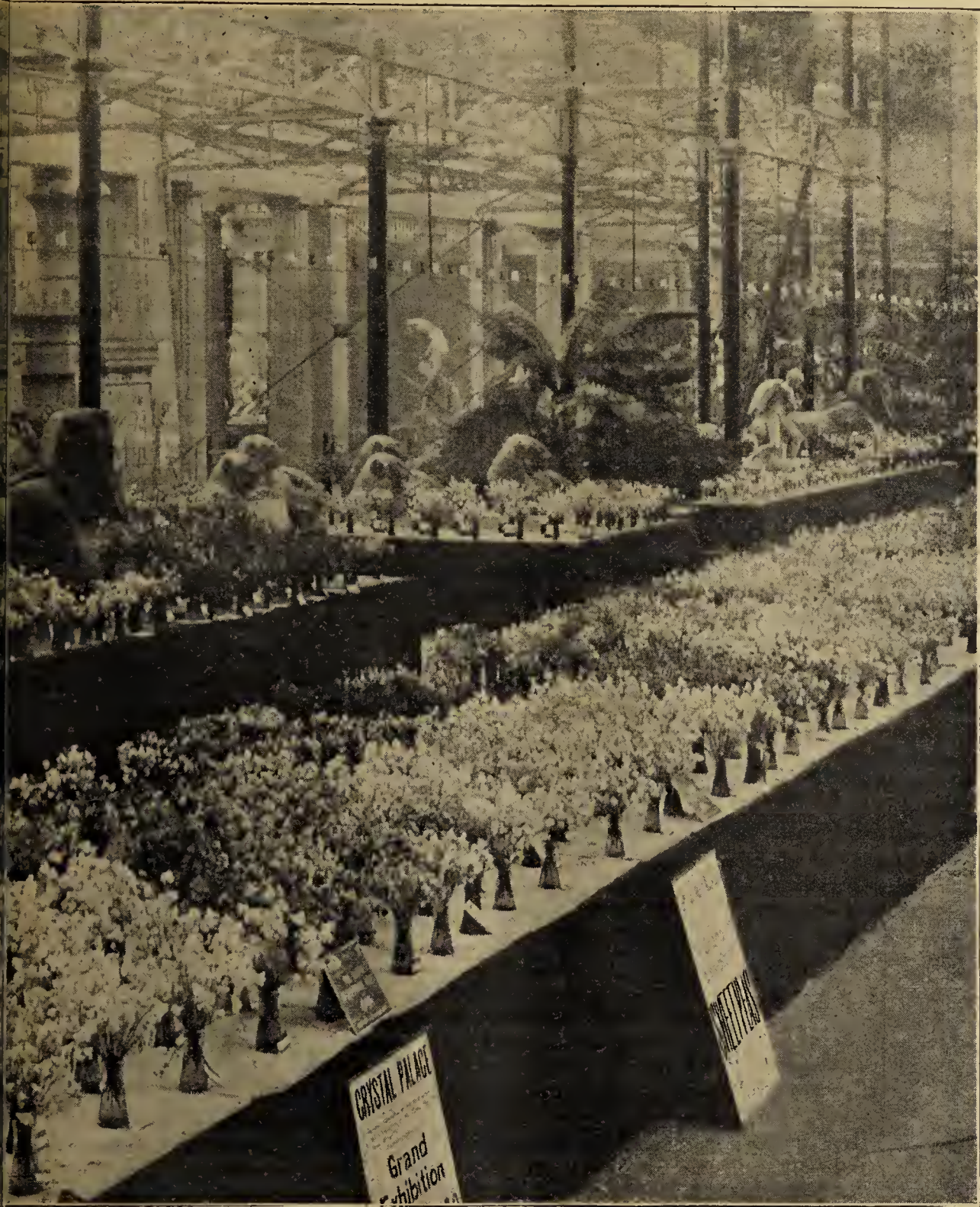
Astrantias.

The Masterworts are old plants, for a time little grown, but now more appreciated, despite their want of brightness of colour. They make capital cut flowers when lightly arranged with grasses or other light flowers or foliage. In the border they are inconspicuous, but are very interesting while in bloom. They are very easily grown, either in moist or in dry soil, the former being, however, to be preferred. There are only a few species, although many more names are to be found. The best of those to be had are the following three:—*A. carniolica*, sometimes called *A. minor*, has white flowers with a white involucre, with a green stripe and tinged with red; it grows from 8 to 14 inches high. *A. helleborifolia*, which grows from 1 foot to 2½ feet high, has both the flowers and leaves of the involucre of a pinkish colour. *A. maxima* is the name under which it is often grown. *A. major* is a valuable and ornamental species with pinkish flowers, which are on stems which grow from 1 to 2½ feet high. It is an old plant, which was introduced into our gardens many years ago. All the *Astrantias* are easily increased by division of the roots in autumn or spring. They also grow freely from seeds, and in the writer's garden self-sown seedlings are rather troublesome. Although far from showy, there are many less pleasing flowers found in our gardens.

Atragene alpina.

Climbing plants have a useful part to play in the flower border, where they may often be trained up poles or the trees which are to be found in many gardens. The Clematises are, of course, not easily surpassed for this purpose, but their allies, the *Atragenes*, are also plants which are worthy of more extended cultivation than they receive. The difference consists in their having a number of petals. There are a few others in cultivation,

but as yet none likely to supersede the old *Atragene alpina* and its variety *alba*. The Alpine *Atragene* is of slender habit, and produces Clematis-shaped flowers of a pretty blue, and with from ten to twelve petals. It does not appear to flower well in some gardens, though in others it blooms annually with considerable freedom. It is propagated by seeds sown in gentle heat in spring, by cuttings, or by layering the branches in autumn. More use might be made of flowering climbers as a background to herbaceous borders, and *Atragene alpina* should not be overlooked in the consideration of how to make the most of the opportunities given by a wall, trellis, or trees.—S. ARNOTT.



CLASS FOR SWEET PEAS.

TER, MR. F. ACKLAND, AND MR. R. WARREN.

tive of the genus. Some few species are sometimes seen, but these generally occur in the gardens of growers of rock plants. A reference to nurserymen's lists will show that the number obtainable is very small, and it seems unnecessary to remark much about plants not procurable. I am a little doubtful if some which are catalogued, and are occasionally seen, are to be obtained even if ordered. Yet it is a pity if an effort is not made to create a demand for an interesting and beautiful class of plants.

Astragaluses.

Astragalus alopecuroides is a singular looking, yet pretty, plant, with thick, oblong-ovate spikes of yellow flowers, and growing from



To "Vaccinate Trees."—A New York painter named Brooks says he has discovered a method for vaccinating trees to prevent their destruction by insects. He claims, says the "New York World," that within two days after a tree trunk is vaccinated with his preparation the fluid will circulate throughout the entire tree, killing any caterpillar or insect that may be on the most remote limb without injuring the tree in any way. Unhappily, scientists laugh at his claims, saying that his vaccinating system is ridiculous.

Tree Planting.—Tree planting for an unusual purpose has been recommended to residents of the western irrigation districts by Mr. W. L. Hall, assistant superintendent of tree planting of the division of forestry, who has recently been in New Mexico on an investigation. Agriculture in that region depends largely on irrigation, and the streams and reservoirs are much depleted by evaporation due to heat and dry winds. Mr. Hall recommends that belts of trees be planted along every ditch and reservoir, not only to shade them but to shelter them from wind. The problem of preventing evaporation is very important, not only on account of the loss of water, but because the percentage of alkali in the quantity remaining becomes excessive.

Outdoor Tomatoes.—It will be a matter for regret, says the "Rural World," if the fear as to the outdoor Tomato crop is verified, for it has become so popular, and those grown in England are greatly preferred to the foreign article. The low temperature was followed by heavy rains, and the combination is more than likely to result in a partial failure, at least, of the crop. It will, of course, be a heavy loss to the growers in many of the southern counties, where thousands of plants are grown in the open, and fruit equal, if not superior, to that obtained from Guernsey is produced. If some portion of the crop benefits by the present hot weather, a great deal must be counted as a dead loss, and the chances are that prices will advance.

Cucumber Cardiff Castle.—There are a good many varieties of Cucumber nowadays, but none too many that possess the qualities that growers want. The other day I was much struck with the appearance of a Cucumber growing in the gardens of J. F. Campbell, Esq., at Woodseat, Staffordshire. I was informed by Mr. Hollingworth, the gardener, that he was unable for some time to obtain a Cucumber to suit him, and he mentioned this to Mr. Pettigrew, the well-known gardener at Cardiff Castle. The latter supplied the want, for he had raised Cardiff Castle Cucumber, and a first-class variety it is. It is not large, and size is no great recommendation in a Cucumber, but it is tender and fleshy, and what is more, a great bearer. On the plants referred to I observed in many places three and four fruits growing from an axil, all about of a size, and the plants were bearing heavily, in spite of the fact that they had been cropping for some time. Mr. Pettigrew has done many things to benefit horticulture, and he added to the list when he introduced Cardiff Castle Cucumber.—G. H.

Veronica Colensoi.—Out of a collection of fifty species and varieties of shrubby Veronicas planted in a border, sheltered by the wall of a greenhouse at Kew, this proved last winter to be one of the most hardy, for while nearly one-half were killed outright and several severely injured, this, with *buxifolia*, *cupressoides*, *decumbens*, *Kirki*, *glauco-cœrulea*, and two or three others, was quite uninjured. In addition to being one of the most hardy, it is also one of the most beautiful, whether from a flower or foliage point of view. It is a New Zealand plant, in habit forming a cushion-like mass 6 or 8 inches high and sometimes several feet through. The leaves are small, thick in texture, and very glaucous. The flowers are white with purple stamens and are borne in short, dense, upright racemes from axillary buds near the point of each shoot. Being an easy plant to manage, of good habit, and free flowering, it makes an excellent subject for a sheltered place on the rockery or other position where a neat, dwarf growing shrub is required. In cold districts it is advisable to root a few cuttings annually in case a severe winter should prove too much for it to stand.—W. D.

Scraping the Old Bark of Fruit Trees.—Trees have no more use for old bark than for old leaves. In every healthy tree Nature provides means for getting rid of it, but these are, says Mr. Meehan, not always so active as they should be, and art has to help where nature fails. Hide-bound trees, and scaly-barked trees, must be assisted by washes, and by scraping where the old bark is scaly and does not pass freely away. This is the plan for temporary relief. But a permanent cure is by liberal manuring. A tree in prime vigour will take care of its own useless bark.

Hydrangea Hortensis var. alba.—A group of this white flowered form of the common *Hydrangea* has been in flower for several weeks in the temperate house at Kew, where it has made a striking contrast to the coloured forms. It was imported from Japan two or three years ago. Grown as a bush it made numerous heads of sterile flowers about 3 inches across. This year, kept to a single stem, the heads are from 6 to 8 inches in diameter, and some of the larger sterile flowers exceed 4 inches in width. With stronger cuttings to commence with the heads of flowers could doubtless be got quite as large as those of the coloured forms. Market growers who have seen it predict a future as a market plant, at any rate it makes a welcome addition to those already largely cultivated.—R. G. K.

The Application of Lime.—The best as well as the cheapest form to apply lime to the land is in powdered phosphate of lime, procured in the low grade powdered phosphates, at a lower price than for lime, with the additional value of the phosphoric acid, as much in quantity as is contained in the commercial fertilisers termed super-phosphates, and very much more than is contained in wood ashes. Powdered phosphate of lime, moistened with a little water, yields to water a considerable quantity of soluble phosphate of lime, and the solubility rapidly increases by the addition of organic matter. Hence, says Mr. A. Ward in a trans-Atlantic contemporary, wherever earthy phosphates of lime exist with organic matter, water will invariably dissolve a portion, progressively with the decomposition of organic matter by fermentation. This fact is of the utmost importance to agriculture.

Fruit Culture in South Africa.—South Africa, until quite recent years, was noted more for the production of wool, mohair, and ostrich feathers, than for the growth of fruit. The reason was simply that all these could be exported, in the raw state, to European markets, without any risk of damage in transit from the slow state of transport. With fruit it was otherwise. It is not so long ago that tons of Peaches, Apricots, and such like fruit were allowed to rot under the trees within one hundred miles of Cape Town, and all the Grapes grown had perforce to be made into cheap wine or brandy. The ever-increasing growth of the markets in Kimberley and the mining towns of the Transvaal and Rhodesia, to say nothing of the export trade, has provided an outlet for all the choice fruit that can be grown. The South African railways have now quite an up-to-date system of cool cars for the conveyance of fresh fish, fruit, and other perishables to the interior from the coast.

Lilium kewense.—Several plants of this new hybrid are at present flowering in the Himalayan house at Kew. It originated by crossing *L. Browni* var. *chloraster* with pollen of *L. Henryi*, and in flowers and foliage the parentage can be readily traced. As yet the bulbs are small, and with the exception of one plant, which has two flowers, one flower only is produced by each plant. In shape the flowers suggest a large "Henryi" or medium-sized "auratum;" they are between 5 and 6 inches across. The segments of the corolla are $4\frac{1}{2}$ to 5 inches long, reflexed at the end. The outer segments are $1\frac{1}{4}$, and the inner $1\frac{3}{4}$ inch wide. In colour the groundwork is cream with a rich yellow mark along the centre of each petal. The centres of the petals are channelled rather deeply towards the base, the channel being green. In one or two flowers a few splashes of brown are found at the base of the petals, and on a plant flowering in an open frame in full sun tinges of rose are evident outside. On different plants the leaves vary, some being long and narrow as in *Browni*, others very similar to *Henryi*. The bulb in shape somewhat resembles that of the male parent. The cross was effected on July 23rd, 1897, the seeds sown on November 5th, 1897, and the first flower opened on July 19th, 1900, so that barely three years have elapsed between crossing and flowering. It remains to be seen whether *Henryi* has transmitted its good constitution and hardiness to its offspring, if so it ought to make a useful garden plant. In shape of flower and almost entire absence of scent a large share of *Henryi* blood is evident.—KEWITE.

Mr. B. R. Cant.

YES! we all knew him better as Ben Cant. I think the very use of that abbreviation is a sure index of the place he occupied in our affections; genial, courteous, and kind he ever was, and one felt that when illness laid hold upon him and that he could no longer appear at our committees and gatherings, we had lost one of the best of our Rose growers, and certainly, I believe, the very best of our exhibitors. I do not wish to disparage any of those who entered into competition with him, but I still maintain that in finish and refinement his Roses came up to the very ideal of perfection, while the arrangement of his stands always showed that he had the eye of an artist. It is many years now since I made his acquaintance and I went to see him, and with him visited his friend Mr. Hedge, who was then the most distinguished of amateur Rose growers. Between them they laid the foundation of that success which has made Colchester the very metropolis of Rose growing.

He was a man who was slow to form his judgments on the claims of flowers for admission into the charmed circle of exhibition varieties, but when he had once made he had seldom cause to alter his opinion. At one time he used to receive all the new Roses from France, enter them into a memorandum book, and record his opinion of them. Many a time has he permitted me to see this record. He was never a raiser of seedling Roses, and the only Rose that bears his name is, I think, Prince Arthur, a sport from Général Jacqueminot. As a judge none surpassed him and few equalled him; his long experience gave him unusual facilities for carrying out his wishes. He was always courteous to his fellow judges, even where he differed from them.

In the "Rosarian's Year Book" for 1886 there appeared a portrait of Mr. Cant, and I may be excused perhaps for repeating what I then said of him—"There is a tide in the affairs of men," &c., and probably a good deal of the success or failure of men arises from their seizing or neglecting that chance. Such a crisis there was in Mr. Cant's life, and to his riding on that flood he attributes his after success in life. It was in the year 1853 that a friend of his, Mr. Penrose of Dedham, returned from France. He was an enthusiastic horticulturist, and especially fond of

Roses. During his stay there he had paid a visit to his old friend Laffay, who spoke in glowing terms of three Roses which were then coming out for the first time—Gloire de Dijon, Général Jacqueminot, and Jules Margottin (what a year that was)—and so impressed Mr. Penrose with his enthusiasm about them, that he bought them, and when he came home he offered them to Mr. Cant.

"These he accepted, although dissuaded by an eminent Rose grower of the day, and he soon got up a stock. The Roses became popular, and it shows the discrimination of Laffay, for, as Mr. Cant justly observes, they are three of the best garden Roses that we have. They were quickly propagated, rapidly sold, and for ever fixed Mr. Cant as a Rose grower, and gave him his first start in life." Numberless are the trophies of Mr. Cant's success which he possesses—cups, vases, medals, &c.; but I think that the greatest of all his victories has been the sincere regard, respect, and esteem he has won from all rosarians, who I think will cherish among their pleasantest recollections that of the kindly, courteous, genial Ben Cant.—D., Deal.

Growth of Puff-balls.—The "Man, learned in fungi," (page 56) who asserts that a giant Puff-ball, up to 1½ cwt., "grows in one night," will have to prove it before I and others will believe him. Mushroom gatherers know that this is a popular delusion.—W. R. RAILLEM.

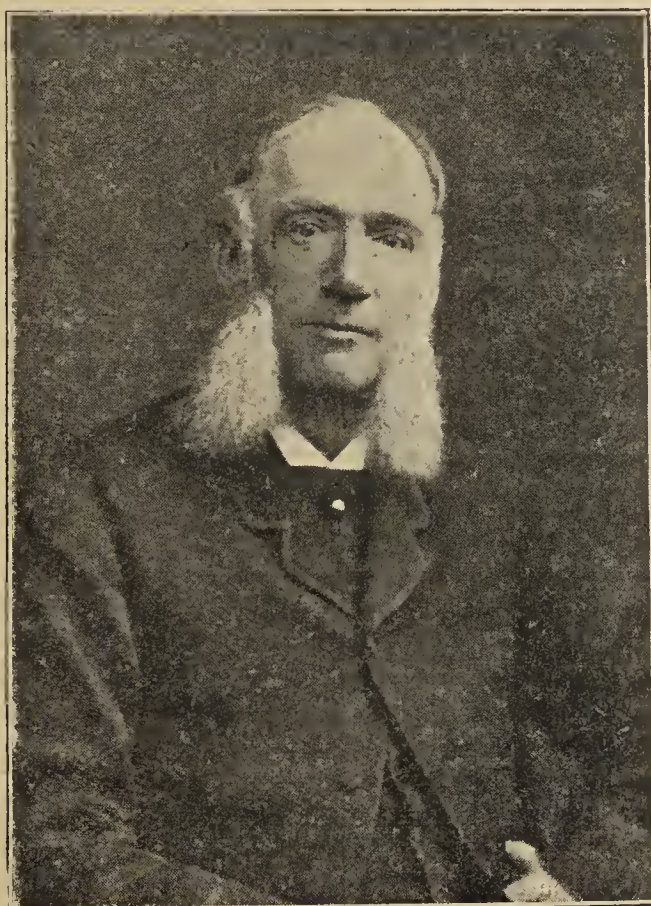


FIG. 23.—THE LATE MR. B. R. CANT.

Rose Shows.

National Rose Society—Birmingham, July 19th.

THE northern exhibition of the National Rose Society was held on Thursday last in the Botanical Gardens, Edgbaston, Birmingham, in almost tropical weather. Under the (for the purposes of a Rose show insufficiently shaded) glass roof of the conservatory a certain proportion of the blooms were completely spoiled by three o'clock, and visitors after that hour might gather that the exhibition was comparatively poor. Such, however, was not the case, for during the morning when the covers had been removed from the boxes it was readily seen that splendid flowers were numerous, both in the amateurs' and the nurserymen's sections. The garden Roses and local classes were placed in an open tent in the lower gardens, and the former were really superb; both Mr. Machin and Mr. Mattock were in great form. The local section was not so well supported as we anticipated, considering the enthusiasm with which gardening is followed up in the neighbourhood of the midland metropolis.

Perhaps the best feature of the entire show was the improvement that was manifest in the dark Roses, which were much more largely shown than is generally the case. As everyone can readily imagine,

the appearance of the stands containing these dark flowers was much better than where light varieties preponderated. This richness of colour must doubtless be ascribed to the sunshine of the past few days, which if it develops the colouring pigment also quickly bleaches it again; however, at Birmingham the blooms had been taken just at the right moment, and consequently the show was a very beautiful one. Mr. E. B. Lindsell followed up his Crystal Palace successes by annexing the amateurs' challenge trophy and other prizes. Mr. Conway Jones was in exceptional form, as also were Messrs. A. Slaughter and Wm. Boyes. The former, though hailing from Sussex, was much stronger than at the Crystal Palace.

The arrangements of the exhibition in the hands of Mr. E. Mawley and the secretary of the Birmingham Botanical and Horticultural Society were most praiseworthy. It was noticed that Mr. Latham, the curator of the garden, was rendering valuable service in his quiet, unobtrusive way; while Professor Hillhouse was determined that none save the representatives of the Press should be present during the period of adjudication.

Nurserymen—General Section.

In the class for thirty-six distinct, single trusses, the first prizewinner holds for the year the nurserymen's Jubilee challenge trophy, value 50 guineas, and receives also a memorial gold medal. This coveted position was secured by Messrs. Harkness & Sons, Bedale, who

staged an even collection, comprising a good proportion of well-coloured dark flowers. The varieties were Gustave Piganeau, Mrs. J. Laing, Chas. Lefebvre, Bessie Brown, Capt. Hayward, Mrs. W. J. Grant, Marie Baumann, Madame Eugène Verdier, Duke of Edinburgh, White Maman Cochet, Alf. Colomb, Her Majesty, Pierre Notting, A. K. Williams, Madame Cusin, Horace Vernet, Souvenir d'Elise Vardon, Duke of Teck, Louis Van Houtte, Comte Raimbaud, Maréchal Niel, Victor Hugo (fine), Maman Cochet, E. Y. Teas, Duke of Wellington, Chas. Lamb, Sir R. Hill, Helen Drew, Madame Haussman, Dr. Andry, Reynolds Hole, Duchesse de Morny, Edouard André, Etoile de Lyon, Earl Dufferin, and Exposition de Brie. Messrs. A. Dickson and Sons, Newtownards, were second with smaller flowers; and Messrs. D. Prior & Sons, Colchester, third. There were seven competitors in this class.

In the class for seventy-two distinct varieties the Right Hon. Lord Calthorpe offered a silver cup, value 7 guineas, in addition to the premier prize of £3, given by the Society. Messrs. A. Dickson & Sons were first with a stand containing some flowers of excellent quality, while others were weak. The varieties comprised Star of Waltham, Countess of Caledon, Gustave Piganeau, Mildred Grant, A. K. Williams, Marchioness of Londonderry, Dupuy Jamain, Comtesse de Nadaillac, Ulster, Bessie Brown, Beauty of Waltham, Helen Keller, Horace Vernet, Mrs. J. Laing, Marie Rady, Marchioness of Dufferin, Pierre Notting, Capt. Christy, Reynolds Hole, Souvenir de S. A. Prince, Duc de Rohan, Her Majesty, Marie Baumann, Mrs. Conway Jones, Gladys Harkness, Duke of Wellington, Souvenir d'Elise Vardon, Charles Lefebvre, Alice Lindsell, Duchess of Bedford, Catherine Mermet, Earl

of Dufferin, Madame Hoste, Haileybury, Caroline Testont, Devienne Lamy, Duchess of Portland, Etienne Levet, Maman Cochet, Ulrich Brunner, Ernest Metz, Prince Arthur, La France, Madame Hanssman, Innocente Pirola, Alphonse Soupert, Mrs. W. J. Grant, Victor Hugo, Sénateur Vaisse, Edith D'Ombrain, G. H. Mackereth, Robt. Scott, Dr. Andry, Alice Grahame, E. Y. Teas, Muriel Grahame, Duke of Fife, Ledbury, Tom Wood, Madame Gabriel Luizet, Camille Bernardin, Florence Pemberton, Alf. Colomb, Queen of Queens, J. S. Mill, Maréchal Niel, Madame Cnsin, Souvenir d'un Ami, Général Jacqueminot, Madame Cadeau Ramey, Comte Raimbaud, and Madame de Watteville. Messrs. Harkness & Sons received the second prize, these being the only exhibitors in the class.

There were three competitors in the class for thirty-six trebles, and Messrs. Harkness & Sons were placed first with a strong exhibit. The varieties were Alice Grahame, Earl of Dufferin, Souvenir d'un Ami, Dupuy Jamain, Mildred Grant, Dr. Andry, Countess of Caledon, Gustave Piganeau, Ernest Metz, Duke of Wellington, Duchess of Bedford, Muriel Grahame, Alf. Colomb, Ulster, Prince Arthur, Madame de Watteville, S. M. Rodocanachi, A. K. Williams, Mrs. E. Mawley, The Bride, Bessie Brown, Maman Cochet, Chas. Lefebvre, Marchioness of Downshire, Duchesse de Morny, Catherine Mermet, Star of Waltham, J. S. Mill, Marquis of Dufferin, Horace Vernet, Mrs. W. J. Grant, Her Majesty, Comtesse de Nadaillac, Kaiserin Augusta Victoria, Reynolds Hole, and Lady Moyra Beauclerk. Messrs. Harkness & Sons were second, and Messrs. D. Prior & Sons third.

For thirty-six blooms, distinct varieties, there were seven competitors, and some magnificent flowers were staged. Messrs. G. Cooling and Sons, Bath, secured first prize with Prosper Langier. Philmon Cochet, A. K. Williams, Ulster, Horace Vernet, Clio, Earl of Dufferin, Bessie Brown, Xavier Olibo, Danmark, Reynolds Hole (superb), White Maman Cochet, Kaiserin Augusta Victoria, Victor Hugo, Medea, Star of Waltham, Souvenir de Madame E. Cauvan, Capt. Hayward, Caroline Testont, Duc de Rohan, Souvenir de President Carnot, Duchess of Bedford, Souvenir d'Elise Vardon, Marie Verdier, Marie Rady, Marchioness of Dufferin, Eclair, Chas. Lamb, Prince Camille de Rohan, Duchesse de Morny, Duke of Wellington, Comtesse de Nadaillac, Ulrich Brunner, Mrs. Ed. Mawley, Alf. Colomb, and E. Y. Teas. Messrs. J. Townsend & Sons were second with smaller flowers, and Mr. J. Mattock third. There were seven competitors.

Messrs. Perkins & Sons were first for eighteen distinct varieties, three blooms of each arranged triangularly, with Prince Arthur, Marchioness of Downshire, Star of Waltham, Mrs. J. Laing, Horace Vernet, Ulster, Gustave Piganeau, Rev. Alan Cheales, Her Majesty, Danmark, Ferdinand de Lesseps, Germaine Caillot, Jeanie Dickson, Marchioness of Londonderry, Madame Hoste, Marquise de Castellane, Lady Mary Fitzwilliam, and A. K. Williams. Messrs. G. Cooling and Sons were second, and Messrs. J. Townsend & Sons third. There were five exhibitors in this class.

Nurserymen—Tea and Noisette Section.

The Birmingham Botanical and Horticultural Society offered its large silver medal to the first prize exhibit in the class for eighteen Teas and Noisettes, and it was won by Mr. G. Prince, Oxford, with a stand of small but fresh flowers. The varieties were Comtesse de Nadaillac, White Maman Cochet, Ethel Brownlow, Muriel Grahame, Maman Cochet, Etoile de Lyon, Innocente Pirola, Madame Cusin, Maréchal Niel, Souvenir de S. A. Prince, La Boule d'Or, The Bride, Bridesmaid, Madame Hoste, Ernest Metz, Marie Van Houtte, Catherine Mermet, E. V. Hermanoz. Messrs. F. Cant & Co. were a good second, and Messrs. D. Prior & Sons third. There were five competitors.

In the class for twelve Teas and Noisettes the competition was keen amongst the five exhibitors. Messrs. J. Burrell & Co., Cambridge, received the premier prize with a handsome set of Maman Cochet, Madame Hoste, Souvenir d'Elise Vardon, Maréchal Niel, La Boule d'Or (fine), White Maman Cochet, Madame Cusin, Muriel Grahame, Catherine Mermet, Comtesse de Nadaillac, Cornelia Koch, and Ethel Brownlow. Mr. J. Mattock, Oxford, was second; and Messrs. Paul and Son, Cheshunt, third.

Open—General Section.

For twelve new Roses the prizes went to Messrs. A. Dickson & Sons, Perkins & Sons, and F. Cant & Co., in the order here given. The first prize stand contained Bessie Brown, G. H. Mackereth, Florence Pemberton, Ulster, Mrs. F. W. Sandford, Alice Grahame, Madame Cadeau Ramey, Robert Scott, Liberty (fine colour), Madame Jules Grolez, Mrs. Mawley, and Duchess of Portland. There were several weak flowers in the stand.

In the class for twelve blooms of any white Rose Messrs. A. Dickson and Sons were first with Bessie Brown in perfect form and slightly scorched; Messrs. F. Cant & Co. second with White Maman Cochet; and Messrs. Perkins & Sons, Coventry, third with Kaiserin Augusta Victoria in poor form. There were six contestants. Messrs. J. Townsend and Sons were first for twelve blooms of any yellow Rose with Maréchal Niel; Messrs. F. Cant & Co. second with Medea; and there was apparently no third prize awarded.

The premier award in the class for twelve blooms of any light pink or rose coloured Rose went to Messrs. A. Dickson & Sons with Maman Cochet in excellent condition; Messrs. Harkness & Sons were second, with Mrs. W. J. Grant, and Messrs. F. Cant & Co., Colchester, third,

with Maman Cochet. There were six competitors in this class. For twelve blooms of any light or dark crimson Roses Messrs. A. Dickson and Sons were first with A. K. Williams in typical form; Messrs. Harkness & Sons second with Horace Vernet; and Messrs. J. Townsend and Sons third with Alfred Colomb. There were eight stands in competition.

Open—Exhibition Roses in Vases.

This class was for twelve distinct varieties (to include not more than six varieties of Teas or Noisettes), seven blooms of each. Space occupied by exhibits not to exceed 6 feet by 4 feet. Exhibits to be staged in twelve vases. There were five exhibitors, of whom Mr. Geo. Prince was placed first with a handsome stand, but unfortunately the varieties utilised were not named; Mr. J. Mattock was second, and Messrs. F. Cant & Co. third.

Open—New Seedling Roses.

A gold medal or card of commendation were offered for three trusses of any new seedling Rose or distinct sport, either not yet in commerce, or not first distributed earlier than November, 1899, a ground plant of the variety had also to be shown. Messrs. A. Dickson & Sons received a gold medal for Duchess of Portland. It is a Tea scented variety of good form and delicate cream colour.

Open—Tea and Noisette Section.

In the open to all classes for twelve Teas and Noisettes, arranged triangularly, the Birmingham Botanical and Horticultural Society added its large silver medal to the first prize. There were six exhibitors, and Mr. G. Prince took the lead with Maman Cochet, The Bride, Comtesse de Nadaillac, White Maman Cochet, Miss Ethel Brownlow, Muriel Grahame, Madame Hoste, Madame Cusin, Cornelia Koch, Catherine Mermet, Innocente Pirola, and Luciole. Messrs. F. Cant and Co. were second, and Paul & Son third.

Open—Garden or Decorative Roses.

In the class for eighteen bunches of garden or decorative Roses, distinct, there were some beautiful exhibits. The chief award was won by Mr. J. Mattock with a magnificent collection. The varieties were Bardou Job, Boule de Nieve, Crimson Rambler, Homère, Old Moss, W. A. Richardson, Papillon, Macrantha, Meta, Beauté Inconstante, Cecile Brunner, Marquise de Salisbury, Madame Chedane Guinnoisseau, Ma Capucine, Lucida Plena, Souvenir de Catherine Guillot, Irene Watts, and David Pradel. Messrs. G. Cooling & Sons were a good second, and Messrs. F. Cant & Co. third. There were five exhibitors. The Birmingham Society offered its large bronze medal in addition to the premier award.

Nurserymen—Premier Blooms.

The National Rose Society offered three silver medals for the best blooms in the nurserymen's section of the exhibition, and they were awarded as follows:—For the best Hybrid Perpetual to Horace Vernet, exhibited by Messrs. A. Dickson & Sons; for the best Tea or Noisette to White Maman Cochet, exhibited by Mr. George Prince; and for the best Hybrid Tea to Mildred Grant, exhibited by Messrs. A. Dickson and Sons. The blooms were all exceptionally meritorious.

Amateurs—General Section.

In the section confined to amateurs the centre of attraction was the Jubilee trophy class for twenty-four Roses, distinct varieties. The first prizewinner holds for a year the amateurs' Jubilee challenge trophy, value 50 guineas, and also receives a memorial gold medal. There were six competitors, and the position of honour was won by Mr. E. B. Lindsell with a really splendid stand of even, well coloured blooms. The varieties were Madame Eugène Verdier, Ulrich Brunner, S. M. Rodocanachi, Earl of Dufferin, Her Majesty, Marie Baumann, Maman Cochet, Gustave Piganeau, Alfred Colomb, Comtesse de Nadaillac, A. K. Williams, The Bride, Horace Vernet, Merveille de Lyon, Charles Lefebvre, Mrs. J. Laing, Madame Cusin, Dupuy Jamain, Innocente Pirola, Duke of Wellington, Muriel Grahame, Prince Arthur, Marchioness of Londonderry, and Duchess of Bedford. Mr. Conway Jones was a creditable second, and the Rev. J. H. Pemberton third.

In a class for thirty-six, distinct, single trusses, the Right Hon. Joseph Chamberlain added to the premier prize a piece of plate value 7 guineas, which was secured by the Rev. J. H. Pemberton. The varieties were A. K. Williams, Danmark, Marie Baumann, François Michelon, Robert Lebaudy, Ulrich Brunner, Gustave Piganeau, Her Majesty, Horace Vernet, Mrs. J. Laing, Charles Darwin, Madame Victor Verdier, Beauty of Waltham, White Maman Cochet, Marshal Wilder, Maman Cochet, Comte Raimbaud, S. M. Rodocanachi, Madame C. Crapelet, Madame Delville, E. Y. Teas, Muriel Grahame, Charles Lefebvre, The Bride, Countess of Rosebery, Madame Hoste, Victor Hugo, Duc d'Orleans, Comtesse de Paris, Bessie Brown, Comtesse de Lindre, Ethel Richardson, Duke of Wellington, Mrs. W. J. Grant, Duchess of Bedford, and Helen Keller. Mr. E. B. Lindsell was second, and Mr. H. V. Machin third.

The first prize for eight distinct varieties, three blooms of each, staged triangularly, was won by the Rev. J. H. Pemberton, who showed Her Majesty, A. K. Williams, Mrs. J. Laing, Countess of Rosebery, Chas. Lefebvre, Maman Cochet, Duchess of Bedford, and Kaiserin Augusta Victoria. Mr. E. B. Lindsell was second, and Mr. W. Boyes

third. For nine blooms of any Rose other than a Tea or Noisette the Rev. J. H. Pemberton was first with A. K. Williams, Mr. H. V. Machin second with Her Majesty, and Mr. E. B. Lindsell third with A. K. Williams.

Open to Growers of less than 2000 Plants.—For eighteen distinct Roses the Birmingham Society offered its large bronze medal in addition to the money prize presented by the society, and the winner proved to be Mr. Conway Jones, who staged Maman Cochet, Chas. Lefebvre, Niphetos, Dr. Andry, Marchioness of Londonderry, Ulster, Prince Arthur, Bessie Brown, Duchess of Bedford, Maréchal Niel, Horace Vernet, The Bride, Medea, Jean Ducher, Madame Hoste, Ernest Metz, Muriel Grahame, and Comtesse de Nadaillac. Mr. A. Slaughter was second, these being the only exhibitors.

In the class for six distinct varieties, three blooms of each, the awards were secured by Messrs. Conway Jones and A. Slaughter in the order named. Mr. Jones exhibited Maman Cochet, La Boule d'Or, Souvenir d'Elise Vardon, Madame Hoste, Catherine Mermet, and Hon.

For nine blooms, distinct, Mr. R. Foley Hobbs was first with Her Majesty, Horace Vernet, Caroline Testout, Duchess of Bedford, Maréchal Niel, Kaiserin Augusta Victoria, The Bride, Ulrich Brunner, and Comtesse de Nadaillac. Mr. M. Whittle was second, and Mr. H. P. Landon third. There were ten exhibitors in this class.

In the class for four varieties, shown triangularly, there were eight exhibitors, and Mr. R. Foley Hobbs was first with Kaiserin Augusta Victoria, Mrs. W. J. Grant, Maréchal Niel, and Horace Vernet. The Rev. F. J. Fulford, Flaxley Vicarage, Newnham, was second, and Mr. M. Whittle third.

Open to All Amateurs.—This was an extra class, open to all amateurs, for six blooms of new Roses, distinct varieties, and Mr. W. Boyes, Derby, was placed first. The varieties were Papa Lambert, Merrie England, Tennyson, Bessie Brown, White Maman Cochet, and Killarney. The Rev. J. H. Pemberton, Havering-atte-Bower, was second; and Mr. J. Bateman, Highgate, third. None of the blooms was of particular merit.

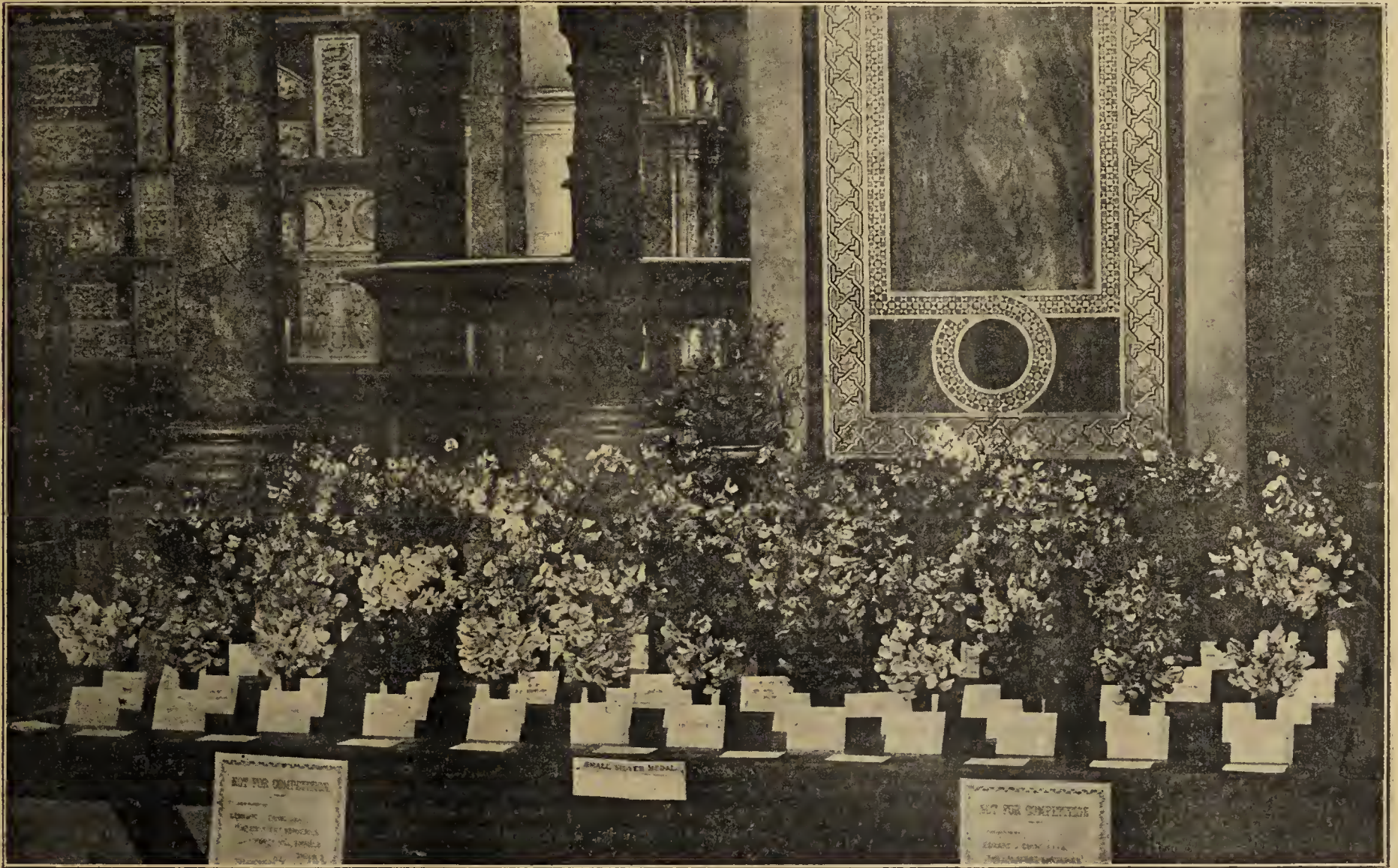


FIG. 24.—MR. L. J. CHING'S SILVER MEDAL EXHIBIT.

Edith Gifford. Mr. Conway Jones secured the first prize in the class for six blooms of any Rose except a Tea or Noisette with Marchioness of Londonderry. Mr. E. Mawley, Berkhamstead, was second with Horace Vernet, and Mr. A. Slaughter third with Alfred Colomb.

Open to Growers of less than 1000 Plants.—In the class subject to the limitation set forth in the headline of this paragraph for twelve Roses, distinct, single trusses, the first prize went to Mr. H. P. Landon, Brentwood, who staged Mrs. J. Grant, Hon. Edith Gifford, Beauty of Waltham, Maman Cochet, Mrs. J. Laing, Comte Raimbaud, Madame Hoste, Caroline Testout, Horace Vernet, Innocente Pirola, Louis Van Houtte, and Merveille de Lyon. Mr. G. Moules, Hitchin, and Mr. M. White, Belgrave, Leicester, were placed equal second. There were nine exhibitors. The Birmingham Society added its large bronze medal to the premier award in this class.

Open to Growers of less than 500 Plants.—Mr. H. Upton, Claremont Street, Belgrave, Leicester, was first for six blooms, distinct varieties, with Gustave Piganeau, Maréchal Niel, Souvenir d'Elise Vardon, Duchess of Bedford, Marie Baumann, and Maman Cochet. Mr. S. Prince, Fairview, Heanor, was second, and Mr. Peter Waltho, The Beeches, Perry Barr, third.

Extra Classes.—The three classes next following were open only to those eligible to compete in the two classes immediately preceding.

Amateurs—Tea and Noisette Section.

In addition to the money prize, the Birmingham Society offered its large silver medal in a class for twelve blooms, Teas and Noisettes, distinct varieties, and the award was annexed by Mr. Conway Jones, Hucclecote, Gloucester, who staged Maman Cochet, Maréchal Niel, Comtesse de Nadaillac, The Bride, Souvenir d'Elise Vardon, Madame Cusin, Bridesmaid, Catherine Mermet, Ernest Metz, Souvenir d'un Ami, and La Boule d'Or. Mr. E. B. Lindsell, Bearton, Hitchin, was second with Souvenir d'Elise Vardon and Comtesse de Nadaillac as the best blooms. Mr. H. V. Machin, Gateford Hill, Worksop, was third.

For nine blooms of any one variety of Tea or Noisette, Mr. Conway Jones was first with beautifully coloured Comtesse de Nadaillac; Mr. H. V. Machin was second with Maman Cochet; and Mr. W. Boyes third with the same variety.

Open to Growers of less than 500 Plants.—In the class for nine blooms, distinct varieties, there were six competitors, of whom Mr. R. Foley Hobbs, Worcester, received the premier award. The varieties were Comtesse de Nadaillac, Maréchal Niel (superb colour), Muriel Grahame, Madame Hoste, Luciole, Ernest Metz, Madame de Watteville, Jean Ducher, and Bridesmaid. The second prize went to the Rev. R. Powley, Warminster, and the third to Mr. A. Slaughter Steyning, with poor flowers.

Open to Growers of less than 200 Plants.—Mr. H. Upton was to the fore in the class for six distinct varieties with Maman Cochet, Madame Hoste, Comtesse de Nadaillac, White Maman Cochet, Souvenir d'Elise Vardon, and Ernest Metz; the Rev. F. J. Fulford was second, and Mr. M. Whittle third. There were eight exhibitors in this class.

Extra Class.—This class, for six blooms of any Teas or Noisettes, was open only to those eligible to compete in the two classes immediately preceding. Mr. A. Slaughter was first with six excellent blooms of White Maman Cochet. Mr. H. Upton was second with the same variety, and Mr. H. P. Landon third with Maman Cochet. There were eight exhibitors.

Open to all Amateurs.—There were five contestants in the class for six distinct varieties, three blooms of each, and the chief prize went to Mr. Conway Jones with Maman Cochet, Innocente Pirola, Comtesse de Nadaillac, Madame de Watteville, Madame Cusin, and Souvenir d'Elise Vardon. The Rev. R. Powley was second, and Mr. Wm. Boyes third.

Amateurs—Garden or Decorative Roses.

Exhibits in this section had to be staged in vases, boxes, or other receptacles; each variety to be in a separate receptacle. All Hybrid Perpetuals, except the single-flowered varieties, were excluded. All Teas and Noisettes and Hybrid Teas mentioned in the N.R.S.'s catalogue of exhibition Roses were also to be excluded. Moss, Provence, and other summer-flowering Roses were permissible. For twelve distinct, not less than three trusses of each, the prize of the National Rose Society was augmented by the large bronze medal of the Birmingham Society. There were two entries in this class, and Mr. H. V. Machin proved an easy first with Crimson Rambler, Macrantha, Bardou Job, Bennett's Seedling, Paul's Single White, Madame Pernet Ducher, Madame Pavie, Madame Falcot, Wm. A. Richardson, White Pet, Madame Chedane Guinnoisseau, and Crested Moss. The Rev. J. H. Pemberton was second.

In the class for six distinct varieties, not less than three blooms of each, shown on a space not exceeding 3 feet by 3 feet, Mr. G. W. Cook, North Finchley, was first with Marquise de Salisbury, Alister Stella Gray, Clara Watson, Crimson Rambler, Aimée Vibert, and Reine Olga de Wurtemberg; Mr. E. Mawley was second, and Mr. Conway Jones third. The premier award was a piece of plate value 2 guineas presented by F. Dennison, Esq.

Amateurs—Premier Blooms.

In the amateurs' section of the exhibition the National Rose Society adopted the same practice as in the nurserymen's division, and offered three silver medals for premier blooms, which were awarded as follows: For the best Hybrid Perpetual, to Horace Vernet, exhibited by Mr. Wm. Boyes; for the best Tea or Noisette, to Comtesse de Nadaillac, exhibited by Mr. George Moules; and for the best Hybrid Tea, to Bessie Brown, exhibited by Mr. Wm. Boyes.

Local Section.

This section, comprising two classes, was open only to growers residing within eight miles of Birmingham Town Hall. The principal class was for twelve blooms, distinct varieties, and the first prize was a silver cup, value 5 guineas, given by the Lord Mayor of Birmingham. This was won by Mr. Peter Waltho, who staged François Michelon, Maman Cochet, Eugène Furst, Mrs. W. J. Grant, Merveille de Lyon, A. K. Williams, Comtesse de Nadaillac, Abel Carrière, Gustave Piganeau, Kaiserin Augusta Victoria, Earl of Dufferin, and Mrs. Sharman Crawford. Mrs. F. Ryland, Baskerville House, Harborne, was second, and Mr. A. W. Hulse, Beechlanes, Birmingham, third.

The only other local class was for six Roses, distinct, single trusses, and the three prizes were each in the form of silver bowls, presented by Mr. Robert Sydenham. Mr. F. W. Wright, New Road, King's Norton, was the only exhibitor, and received the third prize.

Carlisle, July 17th.

"A FAR cry" from Ipswich, and with London to pass through at midday on Monday, with the thermometer at 95°2' in the shade, I was glad to think it was only my own personal flagging that I had to think of, and that no responsibility of Roses weighed on me. It was decidedly pleasanter to judge than to be judged in such weather. However, the corridor dining trains of the L. & N.W.R. make travelling a positive luxury to what it used to be, and it was much cooler at Carlisle on Tuesday morning. The show was held in the Public Market, which does not sound a very attractive spot for a Rose show, but proved to be a very large, cool building, whereof about a quarter fenced off was quite sufficient in space even for the ambitious classes of the schedule.

Class 1 was for seventy-two, distinct, Teas excluded (a large order at any time, but particularly in such hot weather). Messrs. A. Dickson and Sons of Newtownards were easily first, but even they were sadly below their highwater mark. I noticed a fine Ulster, looking almost like a cross between Her Majesty and Mrs. John Laing; a good specimen of Mrs. Conway Jones, Mildred Grant, very fine, as usual; and of the other new ones I was interested in Duchess of Portland, which was, I think, shown for the gold medal at the Crystal Palace two years ago.

It had then the greenish tinge of Kaiserin Augusta Victoria, but now was decidedly yellow in the centre. Messrs. Harkness & Sons were second, having Pride of Waltham unusually fine, and A. K. Williams, Sir Rowland Hill, and Charles Lefebvre in good condition considering the weather. Mr. Hugh Dickson of Belfast, whose best bloom was Horace Vernet, was third.

The next class was for thirty-six, and again for some mysterious reason Teas were excluded. Messrs. A. Dickson & Sons were again first with Mildred Grant and Madame Baumann as leading flowers. Mr. H. Dickson second, and Messrs. Harkness third. For twenty-four trebles, Teas still barred, Messrs. A. Dickson & Sons kept their place with Mildred Grant, Bessie Brown, and Mrs. John Laing as their best examples. Messrs. Harkness second, and Mr. H. Dickson third. In eighteen Teas Messrs. A. Dickson & Sons were still first with a good stand, having Catherine Mermet, The Bride, Innocente Pirola, and Ethel Brownlow in very good form. Messrs. D. & W. Croll of Dundee were second, and Mr. H. Dickson third.

For "one single H.P. in bloom, in any sized pot," 30s. was offered as a first prize, with second and third to follow, but a single plant of Margaret Dickson was all that turned up, and as it had no bloom at all on it the judges could not award a prize. In the amateur division the first class was for twenty-four, eighteen varieties, and again Teas were passed. Mr. Pemberton was first; and Mr. Boyes of Derby, though, with the concurrence of the schedule, he showed no less than four really good Horace Vernets, was second. Mr. J. H. Grant was third. The next class was for fifteen H.P.'s and nine Teas, all distinct. Mr. Pemberton was again first; Mr. Boyes, who was still able to play one more Horace Vernet, second; and Mr. J. H. Midgeley, who showed a fine Dr. Andry amongst indifferent companions, third. In twelve Teas Mr. Boyes was pretty easily first. In six similar H.P.'s Mr. J. H. Grant was first with Mrs. John Laing, Mr. Midgeley second with La France. Six Teas of a sort did not appear to be forthcoming. Baskets and bouquets of Roses seemed, as far as I could find, the prize tickets to be fairly well judged.

I fancy this is the first essay of Carlisle at a Rose show, and I hope it proved a successful one. Improvement might certainly have been made in the schedule, and it was well suggested by Mr. Pemberton that an invitation to the N.R.S. for its northern show might have a favourable influence in this direction.—W. R. RAILLEM.

New Brighton, July 21st.

It made one's thoughts revert to the first time of attendance, some years ago, at the New Brighton Rose Show, when the weather was almost tropical, and there was the sunny haze on the waters of the Mersey. Such a day was Saturday last. Dr. Bell's charming garden was again the chosen spot. The show was of a select character, notwithstanding the heavy thunderstorms through which many of the blooms had passed.

The open class for forty-eight, distinct, was a superb one, the first prize being an unqualified success for Messrs. Alex. Dickson & Sons, Newtownards, co. Down. The following were the varieties—Gustave Piganeau, Maman Cochet, Reynolds Hole, Mildred Grant, Pride of Waltham, Countess of Caledon, Marie Rady, Ulster, Horace Vernet, Mrs. Conway Jones, A. K. Williams, Bessie Brown, Duchesse de Morny, Gladys Harkness, Earl of Dufferin, Alice Lindsell, Mrs. Jno. Laing, E. Y. Teas, Ernest Metz, Général Jacqueminot, Innocente Pirola, Alfred Colomb, Muriel Grahame, Marie Baumann, Marchioness of Dufferin, Dr. Andry, White Maman Cochet, Jno. Stuart Mill, Helen Keller, Comte Raimbaud, Maréchal Niel, Marie Verdier, Duke of Wellington, The Bride, Louis Van Houtte, Catherine Mermet, Tom Wood, Robert Scott, G. H. Mackereth, Mrs. E. Mawley, Camille Bernardin, Madame Hoste, Duchess of Bedford, Duchess of Portland, Etienne Levet, D. Lamy, Ethel Brownlow, Dupuy Jamain, and Alice Grahame. Messrs. Dicksons, Ltd., Chester, were second. Messrs. Alex. Dickson and Sons were the only exhibitors in the class for twenty-four trebles. In the class for twelve dark Roses, Horace Vernet, staged by Dicksons, Ltd., Chester, was placed first, and A. K. Williams from Messrs. A. Dickson & Sons, second. The latter had a splendid win for twelve Teas or Noisettes. Messrs. Dicksons, Ltd., Chester, were second.

There were some charming blooms staged by the amateurs, H. V. Machin, Esq., Worksop, proving the winner in the chief class with Gustave Piganeau, Marchioness of Londonderry, Alfred Colomb, Caroline Testout, Chas. Darwin, Etienne Levet, Horace Vernet, Madame Gabriel Luizet, Ulrich Brunner, La France, Louis Van Houtte, Bessie Brown, Victor Hugo, Marchioness of Dufferin, Marie Baumann, Fisher Holmes, Mrs. J. Laing, Charles Lefebvre, Ernest Metz, Duke of Wellington, Ulster, Général Jacqueminot, and Madame Hoste. Mr. W. Boyes, Derby, was placed second, and E. B. Lindsell, Esq., third. The last named won with eighteen distinct.

Hughes Roberts, Esq., distinguished himself by a good twelve and six, distinct, whilst of local residents Captain Weaver was most successful. Mr. Machin took the prize for six darks with very good Horace Vernet. The classes for hardy perennials were magnificent, T. R. Bulley, Esq., winning with a highly coloured twenty-four varieties, Captain Weaver for twelve, and A. T. Mead, Esq., for six. Some exceptionally fine double Begonias came from Desborough Walford, Esq., and Carnations from Mr. Bulley.

Horticultural Shows.

Cardiff, July 18th and 19th.

THE twelfth annual show of the Cardiff Horticultural Society was held on the above dates in the Sophia Gardens, lent by kind permission of the Marquis of Bute. The show proved a great success, beautiful weather prevailing throughout, and it was pleasing to note that even in such a busy town as Cardiff the show was well patronised by the general public. It is gratifying to learn that Cardiff is becoming more and more a centre for the higher cultivation of flowers and fruit, that the area from which the exhibitors come is extending, and that the exhibitors themselves are on the increase. The several marquees were well set out, and the arrangements in the hands of Mr. Harry Gillett, secretary, were satisfactorily carried out.

In the open class for six stove and greenhouse Ferns, W. J. Buckley, Esq., Llanelly (Mr. W. Carpenter gardener), was first with well grown specimens. For six stove or greenhouse plants in bloom, Mr. J. Cypher, Cheltenham, was a good first with magnificently trained plants. Mr. W. Carpenter, Llanelly, was second. For six fine foliaged or variegated plants the prizes went to the same exhibitors. Mr. J. Cypher was awarded first for a very pretty group of miscellaneous plants in and out of flower, occupying a space of 150 feet, very effectively arranged, and was much admired by all visitors to the show. Mr. R. Crossling, Penarth, was second with a very artistic arrangement of flowers and foliage plants. For twelve plants for table decoration, Alexander Henderson, Esq., M.P., Buscot Park (Mr. W. L. Bastin gardener), was first; J. H. Mullins, Esq., Cardiff (Mr. W. J. Prosser gardener), was a good second, and Evan Lewis, Esq., Llandaff (Mr. G. Wall gardener), third.

In the class for Roses, twelve distinct varieties, three blooms of each, Messrs. James Townsend & Sons, Worcester, gained first with splendidly developed flowers. Mr. R. Crossling, Penarth, was a close second. For Tea or Noisettes, twelve distinct varieties, Messrs. James Townsend & Sons were again first, second place being given to Mr. S. Treseder, Cardiff. For twenty-four Roses, distinct varieties, premier honours went to the English Fruit and Rose Co., King's Acre Nurseries, Hereford, for a beautiful collection of blooms, Messrs. J. Townsend and Sons coming a close second. For eighteen blooms of Tea or Noisette Roses Messrs. J. Townsend & Sons were first, and Mr. S. Treseder, Cardiff, second. Messrs. J. Townsend & Sons were again first for twelve blooms of Roses of any one variety other than Tea or Noisettes, showing magnificent blooms of Her Majesty. The English Fruit and Rose Co. was second with A. K. Williams. For twelve blooms of any one variety of Tea or Noisette Roses Mr. G. Garaway, Bath, was first, and Messrs. J. Townsend & Sons second. In the class for a collection of Roses (space occupied by exhibit to measure 6 feet by 3 feet), to be shown with their own foliage and buds, Mr. R. Crossling, Penarth, was awarded first with a grand display of cut blooms. Mr. G. Garaway, Bath, was second. The Royal Horticultural Society's silver medal was awarded to Messrs. J. Townsend & Sons for the best exhibit in the last-named seven classes.

Messrs. W. Tuplin & Sons, Newton Abbott, were first for six Carnations and Picotees, distinct, and A. W. Pike, Esq., Llanishen, second. For a collection of Carnations and Picotees, shown with their own foliage and buds, not dressed in any way, space 6 feet by 3 feet, plants, Ferns, and any foliage allowed, Mr. W. Treseder, Cardiff, made a grand display, tastefully arranged with Ferns, small Palms, and variegated foliage plants; Messrs. W. Tuplin & Sons were second. For a collection of hardy flowers, in variety, 12 feet by 3 feet, Mr. W. Treseder, Cardiff, was first, making a bold display of well arranged blooms; Mr. A. W. Walters, Bath, was second; and Mr. H. Deverill, Banbury, third. In the class for eighteen vases of Sweet Peas entries were numerous. T. E. Traherne, Esq., Coldriglan Park (Mr. H. Harris gardener) was first with well arranged blooms, making a very imposing exhibit; Mr. G. Garaway, Bath, was second; and Mr. Arthur Bessell, Ludlow, third.

In the section for amateurs and gentlemen's gardeners only, Mr. W. Carpenter, Llanelly, was first for a miscellaneous group of plants, in and out of bloom, in a space of 50 square feet, with a very good arrangement of mixed plants. Mr. George Wall, Llandaff, came a close second, and R. A. Bowring, Esq., Cardiff (Mr. H. A. Joy gardener) third. For a group of miscellaneous plants in 25 square feet, Mr. W. Carpenter was first; Mr. N. Ausaldo, Cardiff, second; and G. Waldron, Esq., Llandaff (Mr. H. Rex gardener), third. Four stove and greenhouse Ferns, Mr. H. A. Joy was first, and Mr. W. Carpenter second. For twelve Zonal Pelargoniums in flower, Mr. Charles Howe, Cardiff, was first with well grown plants. In the class for six, Mr. H. Rex was first and Mr. Chas. Howe second. For six table plants, distinct, Mr. W. L. Bastin was first, Mr. W. J. Prosser second, and Mr. George Wall third. There was only one exhibit of six Fuchsias, distinct, and second honours were awarded to Mr. H. Rex. Mr. W. Carpenter was first for a single specimen plant in bloom, showing Allamanda Williamsi; Mr. H. A. Joy was second with Anthurium Scherzerianum. For the best collection of tuberous Begonias in flower Mr. W. Metford was first and Mr. E. Parsons second. Orchids were very poorly represented. In the

class for six Gloxinias, distinct, Mr. E. Parsons was a good first with well grown plants; Mr. W. Metford was second.

In the classes for cut flowers S. Robinson, Esq., Llandaff (Mr. M. Febrey gardener) was first for twelve Roses, one variety. Mr. W. Morris, Penarth, was second, and Mr. H. Williams third. Mr. M. Febrey was again first in the class for twelve Teas or Noisettes. Mr. H. Williams was second, and Mr. T. Malpass third. For six vases of Roses, shown with their own foliage, Mr. H. A. Joy was first, Mr. T. Malpass second, and Alfred Thomas, Esq., M.P., Cardiff (Mr. T. Williams gardener), third. Twelve Roses, distinct, Mr. M. Febrey, Llandaff, was first, and Mr. T. Richards second. In the class for a collection of annuals Mr. H. Rex was a good first, and Mr. T. Malpass second. For six vases of Sweet Peas, with their own foliage, Mr. H. Harris was first, Mr. Arthur Bessell, Ludlow, second, and F. L. Davies, Esq., Caerleon, third. For the special prizes offered by Mr. Hy. Eckford, Wem, Shropshire, for twelve distinct varieties of Eckford's Sweet Peas, Mr. H. Harris was the successful exhibitor. Mr. A. Bessell was second, and Mr. T. Malpass third. For six Carnations and six Picotees, distinct, Mr. E. Parsons, Cardiff, was first with some ideal flowers. Mr. A. W. Morris, Penarth, was second, and Mr. H. Williams third. In the class for twelve bunches of herbaceous flowers the first prize was awarded to Mr. Thos. Williams; Mr. W. J. Prosser was second. For six Cactus Dahlias, distinct, in vases with their own foliage, Mr. Geo. Wall was first, and Mr. H. Williams second.

In the decorative class Mrs. J. Hurman, Llanishen, was first for a dinner table 8 feet by 4 feet, tastefully arranged with flowers and fruit. The Misses Lewis, Llanishen, were second, and Mrs. T. G. Brooks, Cardiff, third. For floral dinner table decorations the greatest point to be taken into consideration was the artistic blending of different colours. Messrs. Hodgkinson & Co., Manchester, were first, Lady T. Guest (Mr. T. Wilkins gardener) second, and Miss Blanche Jenkins, Cardiff, third. These two classes were open to amateurs only. Bouquet for the hand, Orchids excluded, Mr. W. Treseder first, Mr. A. E. Price second, and Mr. M. J. Ellis third. These prizewinners maintained their positions for a bouquet of Roses. For a bridal bouquet Messrs. Treseder and Price exhibited beautifully, Mr. A. E. Price was awarded first, Mr. W. Treseder second.

In the class for fruit Sir Thomas Morel, Penarth (Mr. J. Profit gardener), was first for two bunches of black Grapes; and Mr. F. L. Davies, Caerleon, second. Two bunches of white Grapes, Mr. H. A. Joy first with Foster's Seedling. One bunch of black Grapes, Mr. J. Profit secured first with a beautifully coloured Black Hamburg. Mr. H. A. Joy was awarded first in the class for one bunch of any white Grape with Foster's Seedling. For a collection of dessert fruit, six dishes, distinct, Pines excluded, Mr. W. L. Bastin was awarded the first prize. Mr. W. Carpenter, Llanelly, was first with two good Queen Pines, and Mr. A. Pettigrew was second. Cherries, Black, White, and Red Currants, Gooseberries, Peaches, Raspberries, and Strawberries were all moderately shown.

In the open class vegetables were shown in good quantity and quality. Mr. T. Wilkins, Henstridge, once more gave a good account of himself, being awarded the first for a collection of vegetables, nine varieties (distinct). Mr. W. L. Bastin was second. Potatoes, Celery, Carrots, Onions, Parsnips, Leeks, Runner Beans, Broad Beans, Cucumbers, Tomatoes, Beet, Cauliflowers, and Turnips, were well staged.

Non-competitive exhibits made a grand show. Messrs. Sutton and Sons, Reading, staged Gloxinias, Begonias, and Achimenes; Messrs. Dickson, Ltd., Chester, herbaceous flowers; Mr. Garaway, Clifton, Messrs. Clibran & Sons, Altrincham, various plants. A gold medal was awarded to Mr. A. Pettigrew, of the Cardiff Castle Gardens, for a remarkably fine group of foliage plants. Messrs. Hodgkinson & Son, Manchester, sent skeletonised flowers; and Mr. W. Treseder, Cardiff, Zonal Pelargoniums.

Huyton and Roby, July 19th.

THIS annual show is fast becoming one of the fashionable events in the neighbourhood of Liverpool. The show was opened by Mrs. Sanderson of The Vicarage, Huyton. Although lacking many large plants seen on former occasions, the show was bright and varied in character, the table decorations, baskets, and sprays being especially elegant.

Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., Bolton Hey, Roby, was first for a group of plants containing Crotons, Ferns, and splendid flowering plants, all admirably arranged. In addition he won for three single, one single, and one double Begonia, four Gloxinias, and one Orchid in flower, six Cockscombs, besides classes for cut flowers, and figuring amongst vegetables. He also won the Countess of Derby's prize for the best cultivated garden, for gardeners or gardeners' assistants. Mr. T. Anderton took Mrs. Parrington's special for an allotment garden.

The stove and greenhouse plants, as, indeed, all the plants from Mr. Jno. George, gardener to F. W. Mayor, Esq., Whitefield House, Roby, bore stamp of thorough culture, although not of the largest size, the prize for four and single stove and greenhouse, four Caladiums, six table plants, single Caladium, and six Carnations (very fine) all falling to him. Mr. J. Rose, gardener to J. G. Kitchen, Esq., scored well in the

Fern classes, as did Mr. J. Watkin, gardener to T. D. Syers, Esq. Huyton, for double Begonias, Liliiums, Gloxinias, and stove and greenhouse cut flowers.

The prizes for Fuchsias and Zonal Pelargoniums went to that good old York grower Mr. E. Bridge, gardener to Mrs. Jowett, Greenhill, Huyton. Mr. Fairclough, gardener to J. Atherton, Esq., Hurst House, Prescott, showed well in the plant classes. Mr. T. Eaton, gardener to J. Parrington, Esq., Roby Mount, Roby, won the prize for a handsome lady's spray, twelve herbaceous cut flowers (splendid), four dishes of fruit, and excellent Nectarines; the Grape classes and Peaches falling to Mr. W. Oldham, gardener to Joseph Beecham, Esq., Ewanville, Huyton.

National Carnation and Picotee Society.

Southern Section, July 25th.

THE exhibition of this society was held in the Crystal Palace on Wednesday, and was in many respects inferior to the best of its predecessors. The intensely hot weather that has prevailed of late had taken a considerable proportion of substance from the flowers, which were, however, of excellent colour. The competition was exceptionally keen in many of the classes.

In the class for twenty-four bizarres and flakes, dressed on cards, in not less than twelve varieties, the premier prize went to Mr. M. Rowan, Manor Street, Clapham, who staged Gordon Lewis, Robert Lord, William Skirving, Sportsman, Geo. Melville, Master Fred, Thalia, Admiral Curzon, J. S. Hedderley, Mrs. Rowan, R. Houlgrave, J. W. Bentley, Valkyrie, Merton, and Actæon. The flowers were mainly of bright colour. Mr. C. Blick, gardener to M. R. Smith, Esq., Hayes, was second; Mr. J. Walker, Thame, third; and Mr. G. Chaundy, Oxford, fourth. For twenty-four selfs, in not less than twelve varieties, there were six entries, and Mr. C. Blick was placed first with Cecilia, Firebrand, Sultan, Anne Boleyn, Sir Bevy's, Eva, Adlus, Seymour, Cockran, Joan d'Arc, Almoner, Mrs. Eric Hambro, Ensign, Benbow, Enchantress, Etna, Fouche, Lyons, Agnes Sorrel, Much the Miller, and Michelet. Mr. C. Turner, Slough, was a good second, and Mr. M. Rowan third.

For twenty-four Fancies in twelve varieties, Mr. C. Blick was first with Oakley, Hidalgo, Persens, Paladin, Elaine, Bedemere, Tibullus, Alexandra, Falka, Aglaia, Persimmon, Lily Duchess, Oakley (sport), Argosy, Ormonde, Ossian, Guinevere, Goldylocks, and Patrocles. The flowers in this stand were superb. Mr. C. Turner was second, and Mr. J. Walker third. Mr. C. Blick was again first for twenty-four white ground Picotees in twelve varieties; the flowers were particularly refined. The varieties were Mrs. Sharp, Bessie, Amy Robsart, Sydenham's 417, Favourite, Duchess of York, Ganymede, Clara Penson, Mrs. Beswick, Madame Richer, Lady Louisa, Marian, Mrs. Kingston, Mrs. Payne, Baroness Burdett Coutts, Little Phil, and Brunette. Mr. J. Walker was second, and Mr. M. Rowan third. Mr. C. Blick was also first for twenty-four yellow Picotees in excellent form, with Grunow, Duke of Alva, Onda, Badminton, Heliodorns, Alcinous, Lady Cynthia, Lady St. Oswald, Daniel Defoe, Laidznn, Dinorah, Speranza, and Aldeboran. Mr. C. Turner second, and Mr. G. Chaundy third.

Mr. G. Chaundy was first for six selfs with Germania; Mr. C. Turner second with Hermione; and Mr. H. W. Weguelin third with Olivia. Mr. C. Turner was first for six Fancies with Charles Martel; Mr. C. Blick second with Hidalgo; and Mr. C. A. Tate, West Dulwich, third, with Voltaire. For six Fancies, other than yellow or buff grounds, Mr. C. Turner was first with blooms of Desmoulins; there was no other competitor. For six yellow ground Picotees, Mr. C. Blick was first with perfect flowers of Childe Harold; Mr. G. Chaundy second with Countess of Jersey; and M. H. W. Weguelin third with Empress Eugénie. For twelve distinct selfs and Fancies without dressing Mr. C. Blick was first with Jervis, Daniel Defoe, Benbow, Sir Bevy's, Perseus, Falka, Hesperus, Briseis, Lafayette, Gronow, H. Falkland, and Golden Hopes; Mr. C. Turner was second, and Mr. J. Walker third.

Single Blooms.

Scarlet bizarre.—First Messrs. Thomson & Co., second Mr. M. L. Rowan, and third Messrs. Pemberton & Son, with Robert Houlgrave. Crimson bizarre.—First Mr. F. W. Goodfellow, second Mr. R. Sydenham, and third Messrs. Thomson & Co., all with J. S. Hedderley. Pink bizarre.—Mr. J. Wellesley first and second with Wm. Skirving; and Mr. Cartwright, third with Norah Payne. Purple flake.—First and third Messrs. Thomson & Co. and second Mr. R. Sydenham, each with Gordon Lewis. Scarlet flake.—First Messrs. Thomson & Co., second, Messrs. Pemberton & Son with Sportsman, and third, Mr. Cartwright with John Wormald. Rose flake.—First Mr. M. Rowan, second Messrs. Pemberton & Son with Merton, third Mr. Cartwright, with Thalia.

Blush or white, white self. First, Mr. C. F. Thurstan, with Mrs. Eric Hambro; second, Mr. R. Sydenham, with Dick Donovan; and third, Mr. Cartwright, with Mrs. Eric Hambro. Rose and pink self. First and second, Mr. Colley Sharp, with Joan of Arc; and Mr. C. F. Thurstan third with Exile. Scarlet red or crimson self. First, Mr. Cartwright, with The Sirdar; second, Mr. C. F. Thurstan, with Mrs.

Jas. Douglas; and third, Mr. R. Sydenham, with The Sirdar. Marone or purple self. First, Mr. Went, with Sultan; second, Mr. R. Sydenham, with M.O.S.; and third, Mr. C. Blick, with The Sultan. Yellow self. First, Messrs. Thomson & Co., with Britannia; second, Mr. M. V. Charrington, with Germania; and third, Mr. Euston, with Cecilia. Buff self. First, Mr. C. Blick; second, Mr. Went, with Benbow; and third, Messrs. Thomson & Co., with Nabob.

Yellow ground Fancy. First, Mr. Wellesley, with Hidalgo; second, Messrs. Phillips and Taylor, with Voltaire; and third, Mr. C. Turner, with Chas. Martel. Other Fancies. First, Mr. Bartlett, with Desmoulins; second, Mr. Cartwright, with Artemus; and third, Messrs. Phillips and Taylor, with Distinction.

Picotees.—Heavy red-edged.—First, Mr. Cartwright, with John Smith; second, Mr. F. W. Goodfellow, with Isabel Lakin; and third, Messrs. Pemberton & Sons, with John Smith. Light red-edged.—First, Mr. R. Sydenham, with Grace Darling; second, Mr. Cartwright, with Thos. William; and third, Messrs. Pemberton & Sons, with the same variety. Heavy edged purple.—First, Mr. Cartwright, with Miriam; second, Messrs. Pemberton & Son, with Amy Robsart; and third, Messrs. Thomson & Co., with Miriam. Light edged purple.—First and second, Mr. R. Sydenham, with Lavina; and third, Mr. Wellesley with Pride of Leyton. Rose or scarlet heavy edge.—First, Messrs. Thomson & Co., with Lady Louise; second, Mr. R. Sydenham, with Duchess of York; and third, Mr. Cartwright, with Mrs. Beswick. Rose or scarlet light edge.—First and second, Mr. R. Sydenham, with Favourite and Fortrose; and third, Mr. Cartwright, with Fortrose. Yellow ground heavy edge.—First, Mr. C. Blick, with Gertrude; second, Mr. Brown, with Mohican; and third, Mr. Wellesley, with Hesperia. Yellow ground light edge.—First and second, Mr. C. Blick, with Childe Harold; and third, Mr. Cartwright, with Mrs. Douglas.

Division II.

Messrs. Thomson & Co. were first for twelve bizarres or flakes, distinct, with Thalia, Gordon Lewis, Sportsman, Geo. Melville, Master Fred, John Wormald, J. S. Hedderley, Merton, Robt. Houlgrave, J. D. Hextall, M. Rowan, and W. Skirving. Mr. F. Wellesley was second, and Mr. S. A. Went third. There were eleven entries for twelve selfs, and Messrs. Thomson & Co. were again first with Exile, Britannia, The Imp, Germania, Seagull, Mrs. J. Douglas, Mrs. Eric Hambro, Her Grace, Percy, Nabob, and Sadeh. Mr. F. Wellesley was second, and Mr. S. A. Went third.

For twelve Fancies Mr. F. Wellesley was first with Eldorado, Monarch, Brodrick, Sport, Voltaire, Hidalgo, Lady Ardilaun, Janira, Stradrath Bail, G. Cruickshank, and two seedlings. Mr. S. A. Went was second, and Messrs. Thomson & Co. third. Mr. F. Wellesley was first for twelve white ground Picotees with Amy Robsart, Favourite, Little Phil, Fanny Tett, M. D. Anstiss, Mrs. Sharp, Tho. Williams, Brunette, Campanine, Esther, Fortrose, and Lady Louise. Messrs. Thomson & Co. were second, and Mr. Went third. Mr. S. A. Went was first with twelve yellow ground Picotees with Onda, Empress Eugénie, Mrs. Tremayne, Mrs. R. Sydenham, His Excellency, Stanley Wrightson, Miss Violet, Dervish, and Ladas. Messrs. Thomson & Co. were second, and Mr. Wellesley third.

For six selfs, one variety, Mr. Wellesley was first with Mrs. Eric Hambro; Mr. Went second with Germania; and Messrs. Thomson and Co. third with Dick Donovan. For six Fancies, yellow or buff ground, one variety, Mr. Wellesley was first with Monarch; Messrs. Thomson & Co. second with Voltaire; and Mr. Went third. Mr. F. Wellesley was first for six yellow ground Picotees with His Excellency; Mr. Went second with Empress Eugénie; and Messrs. Thomson & Co. third with the same variety.

Mr. S. A. Went was first for six self or Fancies, undressed, with Mrs. Tremayne, Miss Audrey Campbell, Dervish Perseus, Nox, and Asphodel; Messrs. Thomson & Co. were second, and Mr. Wellesley, third.

Division III.

Mr. R. C. Cartwright was first for six, distinct, bizarres or flakes, with Sarah Payne, Thalia, Gordon Lewis, Master Fred, Wm. Skirving, and John Wormald. Mr. Brown was second, and Messrs. Pemberton and Sons third. For six selfs Mr. C. F. Thurstan was first with Mrs. Eric Hambro, Tabley, Exile, Mrs. J. Douglas, Dick Donovan, and Miss Audrey Campbell. Mr. A. Chatwin was second, and Mr. Brown third. There were twenty-three competitors. Mr. Cartwright was first for six Fancies with Artemus, The Gift, Voltaire, Perseus, Brodrick, and Eldorado. Mr. W. Spencer was second, and Mr. A. H. Beadles third.

The prizewinners for six white ground Picotees were Mr. R. Cartwright, Pemberton & Sons, and D. Walker in the order given. For six yellow grounds Mr. W. Spencer was first, Mr. R. Cartwright second, and Mr. A. H. Beadles third. Mr. Cartwright went ahead with three selfs, showing Dick Donovan, Mr. E. Charrington was second, and Mr. A. H. Beadles third. For three yellow or buff ground Fancies Mr. Cartwright was first, Mr. C. Harden second, and Mr. L. C. Gordes third. Mr. Cartwright was also first for three Fancies other than yellow or buff ground, Mr. L. C. Gordes was second, and Mr. Brown third. In the classes for undressed blooms the principal prizewinners were Messrs. H. Rogers, M. Charrington, R. C. Cartwright, D. Walker, E. Charrington, L. C. Gordes, C. Harden, S. F. Solley, and A. Chatwin.



Fruit Forcing.

Vines.—*In Pots for Early Forcing.*—The canes intended for starting in November to afford ripe Grapes in late March or early in April should now have the wood ripe, thoroughly hardened, and the buds plump. If there be any doubt about these matters, keep the house rather warmer by day, 80° to 85°, closing early so as to raise the temperature to 90° or 95°, and open the ventilators at night. Afford water in sufficient quantity to prevent the leaves flagging, or liquid manure may be given to help them to plump the buds; the foliage cannot have too much light. Keep the laterals well in check, leaving no more than are absolutely necessary to appropriate any sap that may be in excess of the leaf requirements, and so prevent the principal buds starting.

When sufficiently ripened, as indicated by the wood being brown and hard and the buds prominent, they may be removed to a position outdoors in the full sun, standing on boards or slates in front of a south wall or fence, securing the canes to the face of the wall, only giving water to prevent the foliage falling prematurely, and having some waterproof material to throw the water from the pots in case of heavy rains. In this position they will rest even if the foliage is not shed. When the leaves give indications of falling commence reducing the laterals, and when most are off cut them in closely and shorten the canes to the length required, placing them in a cool airy shed or other place until the time arrives for forcing. Keep the soil dry, yet not so dry as to cause the wood to shrivel.

Earliest Forced House.—This will vary as to time in different establishments, but it is not desirable as a rule to start permanent Vines before the beginning of December, so as to afford a supply of ripe Grapes from the end of April or beginning of May onwards. A dry atmosphere is desirable for the thorough ripening of the wood, but it will not be necessary, except in the case of young Vines not forced early before, to employ artificial heat. All laterals should be kept stopped, and rest gradually induced by keeping the house cool and the border dry. Inside borders, however, may require watering, but if they have been mulched it may not be necessary; and outside borders will not take any harm provided they are of sound material and well drained. Premature ripening of the foliage is undesirable, and is generally occasioned by destruction of the leaves through red spider, too dry an atmosphere, and deficiency of water at the roots. Where the Vines are in an unsatisfactory condition prepare for lifting at an early date, getting fresh loam and clean drainage, so that the work can be done quickly when started. There is no danger of losing a crop, provided the operations are properly and promptly performed. It is desirable to lift the roots and place them in fresh soil nearer the surface whilst there is foliage on the Vines, therefore work of this kind ought not to be delayed in the case of Vines that are to be started early in December, which will need pruning by the middle of September, or a little later in the case of lifted Vines.

Second Early Vines.—Those started at the new year have the crops cleared, and should be cleansed by means of the syringe or engine, and, if needful, by applying an insecticide. If there be any mealy bug or scale use petroleum at the rate of a wineglassful to 4 gallons of water, in which 8 ozs. of soft soap and 1 oz. of washing soda have been dissolved, keeping the mixture thoroughly agitated whilst it is being applied. It is best done on a calm evening, and should be repeated at intervals of a few days, and is best applied at a temperature of 90° to 100°. If there are any plants they must be removed, and if the roots of the Vines are near the surface cover the border with dry short material to absorb the waste.

Keep the laterals firmly in check, but not closely pinched, unless the Vines are very vigorous and not ripening the wood well, then keeping the house dry at night with all the air possible, and somewhat close and warm by day, will tend to promote the maturity of the wood and buds. In stopping vigorous Vines regard must be had to the principal buds, not pinching them so closely as to start growth in the pruning buds. Such Vines should be kept without water until the foliage is a little limp, but not to the extent of flagging. Vines that, on the other hand, are not strong, having been enfeebled by continuous cropping or other causes, should be encouraged to make growth by applying liquid manure to the border, or top-dressings of the advertised fertilisers washed in; but whatever extraneous foliage is made must not be allowed to interfere with the free access of air and light to the principal leaves, which should be kept clean and healthy, so that they may appropriate some of the extra food, assimilating and storing it in the buds and adjacent wood. Ventilate freely day and night.

Grapes Ripening.—Admit air constantly, enough with a gentle warmth in the pipes to insure a circulation. In ripening most Grapes swell

considerably, therefore a moderate amount of air moisture is necessary, and there must not be any deficiency of water at the roots. Give the border if necessary a thorough supply of water, or even weak liquid manure, and in the early part of the day, so that the superfluous moisture may be dissipated before night. If the Vines are heavily cropped afford substantial food, such as phosphates, sulphates, and nitrates, or the advertised fertilisers, which act promptly and steadily, and allow them plenty of time, otherwise, if there be any hastening of the ripening and a deficiency of moisture or nourishment it is likely the fruit will be deficient in colour. A temperature of 60° to 65° at night with air is a great help to Vines with a heavy weight of Grapes, if kept warmer at night the Grapes ripen faster and colour less freely. A temperature of 70° to 75° by day from fire heat is ample, for heat will not impart colour. A moderate moisture should be secured by damping occasionally, and if possible allow the laterals to extend, for it is chlorophyll that is needed, but overburdened Vines rarely push laterals, having enough to do to supply the principal foliage and Grapes with nourishment.

THE BEE-KEEPER.

The Weather.

In this district (South Yorkshire) our honey harvest from the white Clover and Limes is usually obtained from the second week in June to the middle of July. In this district much of the farming is done on the four-course system, so that we always have a good crop of white Clover, which follows Barley, and is used as sheep pastures the following season. This year the Clover does not appear to be blooming as freely as we have seen it in some former years. Still there is sufficient for a heavy surplus of honey to have been stored from that source alone had the weather been more favourable.

Bee-keepers whose stocks were in good condition, and did not wish to increase their number, but placed supers on them instead of dividing, or allowing them to swarm, will have reaped full advantage from their forethought. We do not remember supers being filled more rapidly before than they were this year early in the season, the surplus being obtained from the fruit blossoms and Hawthorns.

Shading and Ventilation.

During the prevalence of bright sunshine and a high temperature the stocks should have attention, by providing free ventilation and shading when necessary. We usually ventilate our stocks by wedging up the front of the hive its full width, the wedge being thick enough to allow free bee passage. By wedging the hives up in this manner perfect ventilation is provided, thus allowing a greater number of workers to leave their hive instead of remaining on the floor board fanning at the entrance, which they always do when the hive becomes overheated through insufficient ventilation. Shading should be worked in conjunction with ventilation. If this is done during a spell of hot weather a larger surplus will be stored than if the bees were left to chance. For giving a light shade to the stocks we prefer an ordinary Russian mat, which should be thrown lightly over the top of the hives, and if allowed to hang well over the front of each stock it will not be in the way of the workers, neither will it interfere with the free ventilation of the colonies.

Wedging up the front of the hives can only be done when loose floor boards are used. These have now become almost universal. But as there are many hives with fixed floor boards in the country which it is impossible to ventilate on the above mentioned plan, these should therefore be shaded early in the morning, and if much fanning takes place at the entrance the roof may be partly removed, so as to allow a current of air to pass through. If some of the coverings are removed they should be placed in position again in the evening.—AN ENGLISH BEE-KEEPER.

Trade Catalogues Received.

- G. Banyard & Co., Maidstone.—*Strawberries.*
- Ellwanger & Barry, Rochester, N.Y.—*Pot-grown Strawberries.*
- Herb & Wulle, Naples.—*Bulbs.*
- K. J. Kuyk, Ghent.—*Plants.*
- W. Manger & Son, Guernsey.—*Wholesale Bulb List.*
- B. S. Williams & Son, Upper Holloway.—*Bulbs.*

TO CORRESPONDENTS

•• All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *noms de plume* are given for the purpose of replies.

• Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

■ **Spinach Beet for Winter** (J. H.).—We suppose you mean Winter Spinach when you mention Spinach Beet. If the latter, called Perpetual Spinach or Green Beet, the seed should have been sown in May or early in June, similar to ordinary Beet, so as to give a supply of leaves, which are used as a substitute for Spinach during the late summer and onward through the winter. For the general winter crop of Spinach we make a practice of sowing from the 5th to the 10th of August, in drills 18 inches apart, on well prepared and enriched soil, in a sheltered situation. The seedlings should be thinned in the first instance to about 6 inches apart, and finally to a foot asunder in the rows. The thinned plants are excellent for early use, and it saves picking the leaves of the permanent plants until they are of an excellent size and substance. The leaves only should be gathered during the autumn, winter, and spring months, and it is not good practice to pick them too closely.

Grapes Spotted (W. W.).—The Grapes are spotted in a manner somewhat similar to scalding. It is sudden in its action, and sometimes very injurious. On its first appearance a small whitish mark is seen on the side of the berry, as if it had been bruised in some way; the pulp beneath dries up, and a sort of contraction occurs, the berries soon assuming a one-sided irregular form. In such cases the berries should be cut out and burned. The spot is caused by the fungus *Glæosporium læticolor*, which is favoured by a close and moist atmosphere. The most certain preventive, for there is no remedy, is to admit some air constantly and maintain a gentle warmth in the hot-water pipes, so as to secure a circulation of air, causing the moisture to be condensed on the glass instead of on the berries. Also increase the ventilation early, or as soon as the sun acts powerfully upon the house, continuing this procedure, and the fungus will be foiled.

Potatoes Collapsing (Somerset).—The leaves of Sharpe's Victor are much more curled than those of Myatt's Ashleaf, and Windsor Castle being slightly affected indicates the general prevalence of the malady. The mycelium in the tissues and the general appearance accords with that of sleepy disease caused by *Fusarium solani*. The fungus has certainly been in the set, and from there passed up the sprout and stem of the tops, destroying the underground stems and thus causing the haulm to wither, the leaflets curling inwards. The fungus is shown, with an affected top, in the *Journal of Horticulture*, July 11th, 1895, page 37, and also that causing curl, this (*Macrosporium solani*) being frequently associated with sleepy disease, so that it is difficult to determine which is the cause of the tops collapsing. In neither case are the young tubers diseased, but the sudden collapse fungus, or *Macrosporium*, usually causes the tops to wither and die prematurely from the extremity of the tops downwards. The *Fusarium*, on the other hand, is essentially an underground stem disease, and it is the one, in our opinion, causing the mischief in your case. It is very difficult to say how it can be prevented, for fungi live despite all efforts of man, but it is certain that the fungoid mycelium passes over in the set, and to destroy it there without killing the Potato is the great problem. It has been suggested to expose the sets to a heat of 110° for about six hours, this temperature being fatal to the fungus, and though good results have been attained on a small scale no one appears to have adopted it as a general preventive.

■ **Vine Leaves with Minute Blackish Spots** (F.).—The leaves are infested by the black rot fungus (*Læstadia Bidwelli*) a very unusual occurrence. So little is known of the disease in this country that we can only advise dusting the foliage with a fungicide in powder containing sulphate of copper, such as antiblight, fostite, or Strawsonite, applying by means of the Malbec bellows, or an apparatus admitting of delivering the powder upwards. It is very important to admit a little air constantly and increase the ventilation early in the day, the chief point being to prevent the deposition of moisture on the foliage.

■ **Peach Shoot Dying** (*Idem*).—There is trace of mildew, but the wood is killed by brown rot fungus (*Monilia fructigena*). There is no remedy, and the only palliative is to cut away the affected parts to sound wood, and destroy the removed portions by fire. This and lifting the trees carefully are the only things we have found of service in the case of the fungus affecting the wood.

■ **The Gooseberry Gourd** (W. Raby).—The Gooseberry Gourd, *Cucumis prophetarum* (*grossularioides*), is rarely seen in gardens, and is known by few amateurs except where such old and interesting plants are valued. To most botanists it is indeed well known, at least by name, for it was one of those which Linnæus described in his terse but



FIG. 25.—THE GOOSEBERRY GOURD.

graphic style. Thus the plant is invested with some historical interest; but in addition to that it possesses some beauty, especially when well grown and tastefully trained. The aptness of the popular name is at once perceived when the fruit (fig. 25) is examined, for the small oval or globular gourds are studded with short spine-like protuberances, exactly suggestive of some hairy varieties of Gooseberry. In size, too, they are nearly equal, and when the fruits are not fully ripe there is a further resemblance in the peculiar green tint. The longitudinal and regular streaks are, however, a great mark of distinction if there were any danger of confusing the two, which is scarcely possible even by the most superficial and unbotanical observer. When the fruits are fully matured the streaks are alternately dark green and yellow, the comparative difference in hue being well indicated in the woodcut, the lighter streaks representing the yellow ones. Like most of its race, this *Cucumis* requires a stove temperature to insure its success, and being an annual, seeds must be sown every year, preferably early in the spring, to obtain plants for fruiting in the summer. Moderately light and rich soil is needed, with abundant supplies of water during growth. One of the most effective modes of training is to take a clean stem to the height of 18 inches or 2 feet, and then train the shoots horizontally either along a string or so as to cover a flat trellis, from which the fruit will hang, and it can then be seen to the best advantage.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*H. M. B.*).—1, *Jasminum revolutum*; 2, *Harpalum rigidum* Miss Mellish; 3, *Chrysanthemum maximum*; 4, *Astrantia major*. (*C. P. S.*).—1, *Alströmeria aurantiaca*; 2, *Hemerocallis flava*, the Yellow Day Lily; 3, *Lilium martagon*; 4, *Centaurea speciosa*; 5, *Cassia corymbosa*. (*B. W.*).—1, *Odontoglossum citrosimum*; 2, a poor form of *O. crispum*. (*E. M. F.*).—1, *Campanula latifolia*; 2, *Verbascum Chaixi*; 3, *Oenothera Lamarckiana*; 4, *Viburnum lantanoides*; 5, *Campanula pumila*; 6, *Spiræa Billardi*. (*E. D.*).—1, *Achillea ægyptica*; 2, *Centaurea glastifolia*.

Covent Garden Market.—July 25th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, Tasmanian...	8 0	18 0	Grapes, black ...	1 0	3 0
Apricots, box ...	0 8	1 3	Lemons, case ...	10 0	30 0
Cherries, ½ bushel ...	5 0	10 0	Melons, house, each ...	2 0	3 0
„ ¼ bushel ...	3 0	6 0	Oranges, case ...	10 0	25 0
„ Cooking, per sieve	5 0	6 0	Pines, St. Michael's, each	1 0	6 0
Currants, Black, per lb...	0 0	0 3	Raspberries, doz. punnets	6 0	9 0
„ Red, per sieve...	4 0	5 0	Strawberries, bskt 4 to 6 lb.	1 3	2 0
Figs, green, doz. ...	1 6	3 0	„ peck ...	4 6	6 0
Gooseberries, ½ bushel ...	1 3	1 9	„ home grown, doz.	8 0	12 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	2 0	Mint, green, doz. bunches	2 0	0 0
Beans, Long Pods ...	2 0	3 0	Mushrooms, lb. ...	1 0	1 6
„ French, sieve ...	3 0	5 0	Mustard and Cress, punnet	0 2	0 0
„ Scarlet, sieve ...	5 0	6 0	Onions, bag, about 1 cwt.	5 6	6 6
Beet, Red, doz. ...	0 6	1 6	„ Egyptian, per bag	4 0	0 0
Cabbages, tally ...	3 0	5 0	Parsley, doz. bunches ...	2 0	4 0
Carrots, new, bunch ...	0 3	0 6	Peas, English, per bushel	3 0	5 0
Cauliflowers, spring, per dozen ...	3 0	4 0	Potatoes, cwt. ...	5 0	10 0
Celery, bundle ...	1 0	1 9	„ new Jersey, cwt.	10 0	12 0
Cucumbers, doz. ...	2 0	4 0	„ Teneriffe, cwt. ...	12 0	14 0
Endive, doz. ...	1 6	2 0	Radishes, round, doz. ...	1 0	0 0
Herbs, bunch ...	0 2	0 0	Shallots, lb. ...	0 4	0 0
Leeks, bunch ...	0 3	0 0	Spinach, bushel ...	3 0	5 0
Lettuce, doz. ...	0 6	0 0	Tomatoes, English, doz. lb.	3 0	5 0
„ Cos, score, from	0 6	2 0	Turnips, new, doz bunches	4 0	6 0
			Vegetable Marrows, doz. ...	0 9	1 6

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Arums ...	1 0	2 0	Marguerites, doz. bnchs.	2 0	4 0
Asparagus, Fern, bunch...	2 0	2 6	„ Yellow doz. bnchs.	2 0	4 0
Carnations, 12 blooms ...	1 0	2 0	Odontoglossums ...	3 0	7 6
Cattleyas, per doz. ...	0 0	12 0	Pelargoniums, doz. bnchs	4 0	6 0
Eucharis, doz. ...	4 0	6 0	Roses (indoor), doz. ...	3 0	4 0
Gardenias, doz. ...	2 0	3 0	„ Red, doz. ...	1 0	2 0
Geranium, scarlet doz. bnchs.	4 0	5 0	„ Safrano, doz. ...	1 6	2 0
Lilium lancifolium album	2 0	3 0	„ Tea, white, doz. ...	2 0	3 0
„ „ rubrum	2 0	3 0	„ Yellow, doz. (Perles)	2 0	3 6
„ various ...	2 0	3 0	„ Maréchal Niel, doz.	6 0	12 0
Lily of the Valley, 12 bun.	8 0	18 0	„ English:—		
Maidenhair Fern, dozen bunches...	4 0	6 0	„ La France, doz. ...	2 0	3 0
Mignonette, doz. bunches	1 0	2 0	„ Mermets, doz. ...	3 0	8 0
			Smilax, bunch ...	2 0	3 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	24 0	Foliage plants, var., each	1 0	5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	„ pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each	2 6	5 0
Azaleas, various, each ...	2 6	5 0	„ pink, doz. ...	12 0	15 0
Boronias, doz. ...	20 0	24 0	„ paniculata, each	1 0	3 6
Crotons, doz. ...	18 0	30 0	Lilium Harris, doz. ...	8 0	18 0
Dracæna, var., doz. ...	12 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna viridis, doz. ...	9 0	18 0	Marguerite Daisy, doz. ...	8 0	10 0
Erica various, doz. ...	8 0	18 0	Mignonette, doz. ...	8 0	12 0
Euonymus, var., doz. ...	6 0	18 0	Myrtles, doz. ...	6 0	9 0
Evergreens, var., doz. ...	4 0	18 0	Palms, in var., each	1 0	15 0
Ferns, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
„ small, 100 ...	4 0	8 0	Roses, per doz. ...	6 0	18 0
Ficus elastica, each ...	1 6	7 6	Stocks, doz. ...	8 0	12 0

Gardeners' Charitable and Provident Institutions.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*. Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. Brian Wynne, 8, Danes Inn, Strand, London, W.C.



Systematic Drugging of Food.

A COMMITTEE of the Local Government Board has been, and still is, taking evidence on the use of preservatives in different kinds of food, and an article, probably written by Professor Long, appeared last week in the "Yorkshire Post," calling attention to the serious state of things thereby brought to light. Competition on even and fair terms the British farmer must face, but when the health of the British public is seriously threatened by the unconscious consumption of drugs used by traders to keep in a saleable condition various kinds of imported food, it is time the farming interest bestirred itself, and through its chief organisations did all in its power to prevent such practices. A general election is looming in the near future, and agriculture must make its voice so heard then that there shall be a reasonable prospect of early legislation on the subject becoming law.

The foods which are thus drugged include milk, cream, butter, cheese, condensed milk, margarine, ham, bacon, sausage, brawn, preserved meats, jam, beer, temperance drinks, as well as fish and fresh meat. The two latter are often dusted over with borax, and that liberally.

As Mr. Faber, the Danish commissioner, remarked in his evidence, preservatives are added to foods to prevent them from decomposing, and herein lies their most mischievous property, for that which prevents decomposition also prevents the proper digestion of the food in the human stomach. These preservatives are added to British produce as well as foreign, and in the case of butter are doubtless used to hide faults in the manufacture, for Danish butter is free from preservatives, and will keep good for a long time, showing that all that is required is perfection of manufacture. Where there are no seeds of decay present it is unnecessary to introduce any drug to arrest decomposition. Mr. Faber remarked in evidence "that preservatives do not improve the keeping quality of butter to any large extent, and that butter properly made will keep sufficiently well without any preservative."

The Royal Board of Health of Denmark is of opinion that systematic use of boracic acid, or borax, is injurious to health, and fix 1 gramme, or 15 grains, as the amount which should certainly not be taken daily by one person. As 26 grains of boracic acid have been found in 1 pint of milk, it is evident that persons consuming such milk in liberal quantities will do so to serious risk as to their general health.

As the "Yorkshire Post" says—"Apart from the danger lurking in the drug itself, the consumer is warned against milk, especially that which has been standing for some time on the refreshment room counters; and stale sausages, such as but for the preservative present would have been putrid. Thus so-called foods are preserved for sale, the progress of decomposition is arrested, and material which should go to the scavenger's cart is kept on the market to the injury of the trade in really fresh provisions, which are undersold by it. The small

retailer is tempted by the prospect of a bigger profit to invest in the preserved material rather than the fresh." That preservatives are unnecessary is shown by the fact that no large Irish curer uses them at all, and Messrs. Crosse & Blackwell do not use them in their manufactory.

The extensive use of salicylic and boracic acids is proved by a Lancashire analyst, who found the former in fifteen out of twenty samples of jam. He also found from 17 to 38 grains of boracic acid in cream, 62 grains per pound of butter, and 24 grains per pound of ham. The same gentleman found that salicylic acid is used to an astonishing amount in lemonades and other temperance drinks; in lime juice cordial as much as 100 grains per gallon, and in British wines 140 grains per gallon. Considering the enormous amount of lemonade consumed nowadays by children, not only on treat days, but every day, how largely town children are fed on imported butter and margarine, and on bought jam, it is not difficult to see the serious side of this matter, and how urgently necessary it was that the whole question of adulterations should be rigidly inquired into. This inquiry is now taking place, but will agriculture make its voice heard, and see that such an inquiry produces its proper fruit? As Mr. Milnes Gaskell said the other day in addressing the West Riding Chamber of Agriculture, "Any little knot of fools, representing nothing and knowing nothing, could put pressure on a parliamentary candidate and get him to accept their views. Who ever heard of a combination of landlords and farmers for such an object?"

The Agricultural Holdings Bill.

The House of Commons is still considering this Bill as amended, and further amendments are only proposed to be negatived. We notice that the Central Chamber of Agriculture has adopted a resolution recommending Parliament to make it compulsory for an arbitrator in giving his award for compensation under this Bill to give full particulars of the said award. We entirely sympathise with this proposal. Mr. Lipscomb said that the only objection came from the valuers themselves, and this is most probably absolutely true, for valuers have in the past been a very close corporation, have been well combined, and resisted all attempts at reform of their very arbitrary modes of procedure; but we know that farmers have frequently complained of, and looked upon as a grievance, the want of particulars in tenant right awards, the latter being like doctors' bills, except in the largeness of their amounts.

A valuer of our acquaintance some fifteen or twenty years ago commenced to give full particulars in his awards, and he thrived amazingly, soon building a large and very far-reaching business. The day is gone by when valuers could roughly reckon up each his separate idea of the amount due and then split the difference, or, to quote one instance we have heard of where £200 was the difference between them, toss for choice. At any rate, in such an important matter as an arbitrator's award under a Bill like this, it cannot be unreasonable to ask the arbitrator, who should be a master of his craft, to give full and sufficient reasons for the final decision which it is his duty to award.

Work on the Home Farm.

A splendid week, broken only by one heavy shower, has enabled farmers to clear up the hay that was still out, and the crop is now, practically speaking, all in. It is well got, too, and will be of great value.

The shower above mentioned has given the Turnips a great push. The hay harvest drew away the men from hoeing when the Turnips were just right for striking, and now they are rather big and the singling process is much more difficult. As the men do the work by the acre, the extra labour will fall on them, the price remaining the same. They will, however, make some very long days in order to pick up the ground lost, and this will exactly suit the farmers, who are only too anxious to see the work done expeditiously.

There is a lot of work to do before the corn harvest, which is coming on rapidly. Barleys are assuming a decidedly yellow cast, and Wheat ears begin to feel as if there was something in them. In another week we shall be able to count the grains and give some kind of forecast as to the probable yield.

The great heat, much above 80° shade temperature, has taken the

gilt off the lighter Barleys, and some fields which had shown great improvement from the June rains and cool conditions are again looking both short and thin. The improvement was evidently only one to be seen from a distance.

Thousand-heads are looking very well and nearly cover the land; they will be ready for use early, and will be wanted, for Clover fogs are only thin, and cannot be good, and though lambs are looking healthy at present, we hear a little ominous coughing towards nightfall. A good dipping will do them good, and they may be taken from the ewes at once. Shepherds are kept busy with the fly, which is now very troublesome; the great heat hatches the grubs and forces them so quickly that a lamb may be in a serious state in a few hours. Fine tobacco powder dredged on the place from a pepper-box is the best thing to prevent a second attack.

Feeding cattle on grass are thriving well, but butchers complain that they weigh badly when killed; they are, perhaps, still suffering from the loss of last year's Turnip crop. Pigs having gone through a period of scarcity, are now so plentiful that nice young ones eight weeks old may be bought for as many shillings, and useful stores are only worth 30s. A good chance is offered to buy young ones for breeding purposes later on; the trade will have recovered in about eighteen months.

Destruction of Locusts.—A Consular report on the Argentine Republic, which was issued on Monday, tells of the enormous and systematic destruction of locusts in that country. No less than 12,000 tons of locusts were destroyed last year under the auspices of a commission appointed for the purpose. As a result of this campaign against the enemy the Wheat and Maize crops were exceptionally large.

Harvest Difficulties.—The gathering of the harvest this year is likely to tax the ingenuity of the farmer. The scarcity of agricultural labour is intensified by the absence on foreign service of the Army Reserve. Our villages have been drained of able-bodied men, so much so that in some villages in the lower portions of Essex and Suffolk it has been found that 60 per cent. of the adult population remaining are upwards of sixty years of age. The scarcity of labour during the last few seasons has been overcome by the increasing use of machinery, but the practical man is aware that only when the surface of the soil is hard and dry will this harvester work satisfactorily.

A Preventive of Turnip "Fly."—Mr. G. H. Carpenter, B.Sc., F.E.S., consulting entomologist to the Royal Dublin Society, in a communication which has been incorporated in the report of the council just issued, refers in the following terms to the prevention of Turnip "fly":—"Mr. C. Smyth of Ballymote, county Sligo, has discovered that dressing the young Turnip plants with a weak solution of sulphate of copper and lime is a most effective preventive of the attacks of the fly, while it does not in the least interfere with the growth of the plants. When the sulphate of copper was first talked of as a destroyer of Charlock, it was generally conceded that the dressing could not be availed of in the case of fields sown with a Turnip crop, on account of the Turnip being a member of the same family as the Charlock, and as such likely to suffer from the dressing in the same way. The experiments conducted by Mr. Smyth, however, go to show that if a weak dressing is employed, say about 1 per cent. solution, no injury to the plants need be apprehended, and the absolute immunity of the plants from fly attacks may be confidently counted on. Should it work out as Mr. Smyth seems to have found it to do, the dressing will prove a priceless boon to Turnip growers in all parts of the kingdom."

Association of British and Irish Millers.—The twenty-second annual conference of the National Association of British and Irish Millers opened at the Grand Hotel, Scarborough recently, when about 160 members were present, including Mr. Sydney Leetham, York, president, Mr. Arthur Baker, Bristol, retiring president, and the secretary, Mr. H. J. Sanderson, London. Mr. Leetham, in the course of his presidential address, strongly urged upon members the necessity of united action to protect the interests of British millers against American competition. British millers were too conservative and old-fashioned. They spent their strength fighting amongst themselves, bemoaning the pressure of foreign competition, which was as nothing compared with the fratricidal and unnecessary competition indulged in at home. It was no secret that the year ending December, 1899, was not a satisfactory one. The reason for that had been the stagnant condition of the Wheat market, resulting in the price of flour being cut down to the lowest possible margin. Did the consumer trouble about the last sixpence per sack, and was he to blame for trade being pulled down time after time? He fearlessly asserted that the entire blame rested with themselves. It was surely worth their while to formulate a scheme, whereby a community of interest without curtailment of individual effort could be devised. The president's address was followed by a discussion on the question of dirt and foreign matter in Wheat, and on the motion of Mr. Baker, Bristol, it was resolved that this Association continue to agitate for the adoption of the principle of analysis as applied to contracts for Wheat sold on sample. The members were afterwards entertained to luncheon by the mayor and the member for Scarborough.—("North British Agriculturist.")

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Journal of Horticulture.

THURSDAY, AUGUST 2, 1900.

The Literature of Gardening.



It is almost startling the number of new books, inexpensive and otherwise, from the 48-page octavo at one penny, which professes to teach the inexperienced the knowledge of gardening in all its branches, to the work of several guineas, which with greater modesty merely tries to inculcate in the receptive mind sound views concerning some one of the phases of gardening. They come, moreover, appealing to all classes, and perhaps the greater number leaves the professional out of count altogether; so many being composed to suit the tastes of his master or his mistress, who sometimes air the ideas they have imbibed, sad to say, as their very own, knowing well that the average gardener has no means of reaching the fountain himself. Others admittedly appeal to the masses, and of these, as of some of that perennial stream, which goes on from week to week in their news-sheets, the ideas generally are not worth picking up as being particularly original. It would be an interesting study to analyse and to classify the gardening literature current in this year 1900, but it obviously would be a laborious undertaking.

An acquaintance, not by any means so intimate as it might be, reveals, however, some curious and not altogether uninteresting facts in connection with this class of literature generally. For instance, there has been a greater development apparent in the reign of queens—that is, Queen Elizabeth, Queen Anne, and Queen Victoria, the first and last more particularly—than at any other time, and without doubt the activity that continued into the reign of James I. and of George I. had its origin in that of the predecessor of each. Curiously, too, it was towards the end of each reign that the greatest activity has prevailed.

The foundation of our national horticultural press was securely laid in "The Profitable Arte of Gardening," in the reign of our first great Queen.

During FIFTY-TWO YEARS the "JOURNAL OF HORTICULTURE" has been written by Gardeners for Gardeners, and in its principles, its practice, and its price it still remains the same. One alteration is perhaps, however, necessary. Our modern methods of production have rendered the price old-fashioned, and hence in order to meet the wishes of the present generation of Gardeners the "JOURNAL OF HORTICULTURE" will hereafter be sold for TWOPENCE instead of Threepence.

The book is compiled from others, the products of other climates, but it appears to have attracted much attention, and to have certainly paved the way for an indigenous work absolutely native to the soil—"The New Orchard," and of course there were not a few fairly good translations from the French and Dutch—e.g., "The Countree Farme" and "The English Husbandman." Then we pass on to the almost solitary "Paradisus" of Parkinson, with here and there a translation or a small contribution relating to national gardening, till the great outburst in the earlier years of last century, when after Evelyn had gone, Lawrence, Switzer, Fairchild, Bradley, and others raised a superstructure which is still sound, much of it indeed more so than some of the material that passes into print to-day. It was at this period also that the monthly papers published by Bradley formed the earliest periodical literature of gardening, and shortly after high-class coloured illustrations were introduced, which culminated in the splendid work of Edwards and others seventy years later.

The Victorian period has been one unbroken stretch of expansion. Its beginning saw already established that class of literature which at first was mainly composed of somewhat dull technical articles appearing at monthly intervals, among which we find the still vigorous higher priced weekly horticultural papers (including the *Cottage Gardener*, now "Our Journal"), which squeezed the life out of the expensively illustrated periodicals that were so common when the Queen ascended the throne. Then the cheaper monthlies, after a struggle, succumbed. And now we have over two dozen weeklies devoted to the advancement of horticulture in some one or other of its phases or sections.

In addition to literature of an evanescent character, there has also lately been poured out upon us an overwhelming mass of book matter, which few, if any, will care to gather indiscriminately into their bookshelves. Not so long ago one could conscientiously keep abreast of the press, without hurting one's purse in purchasing, or damaging one's pia mater in the process of assimilation. Moreover, we used to get digestible feeding if the food was plain. Now, with due apologies to reviewers, it requires an education to distinguish the good from the worthless, and not a little trouble to verify assertions that are doubtful, and which occasionally cannot be squared with facts. We have also a greater outpour than formerly of books devoted exclusively to the use of owners of gardens, and which range from the almost purely literary contributions, so delightful to read, but otherwise of no great value, to the highly technical, partly architectural, partly landscape gardening literature, which appeals to people with plenty of money and a taste for distributing it on rural adornment.

Another curious phase of this question is the rapidity with which new books become stale. Can it be because they are also unprofitable? Many of the old works were read for generations; and sometimes they were disguised under new titles, as in the case of Mascal's work on fruit trees, which appears later, with others, as "The Countreman's Recreation," or Lawson's, which was popular for a century, and reached at least twenty editions. Equally remarkable was the kalendarial book of Abercrombie's, "Every Man His own Gardener," of which he was so dubious of succeeding that he paid another gardener for the use of his name on the title page. Yet in his own lifetime sixteen editions were printed, the last exactly 100 years ago, and after his death others followed till as late as 1839. I am not aware that any book of later times has attained the popularity of these.

The change in the social status of authors is another element worthy of note. Thomas Hill is supposed to have written for a livelihood, but he must have been a man of superior education; and Markham, to whom nothing seemed to come amiss connected with a life in the country, or whether the material was his own or belonged to others, was also an educated man. Thereafter, for a long time, all gardening writers were gentlemen, and Evelyn seems to have been the first to have enlisted the services of gardeners, as he did in the preparation of his "Gardeners' Kalender," while Rose, gardener to Charles II., was first in the field in a little work on the vineyard as a departmental writer. To Scotland belongs the honour of producing the first book on gardening in all its sections. This appeared in 1683 as "The Scots Gardener."

During the eighteenth century professionals contributed largely to the literature of gardening, and have continued doing so till the present day; but there are not wanting signs that, partly from a better educated class entering the field, and partly because the younger race of gardeners have become neglectful of study, the day of gardener-writers is declining. One of the features of modern gardening literature is the part women are taking, but they also have been represented for a long period by past. A Mrs. Alexander Blackwell, with the help of her husband, published in 1737-9 a beautifully illustrated work called "A Curious Herbal," the drawings and engravings, as well as the colouring of the plates, having been undertaken by herself. "The Florist Manual," by Miss Jackson, was a very popular book seventy years ago, and Mrs. Loudon's works on gardening are still highly esteemed.

The clergy also have borne a high position, though after the Reformation till about the middle of the seventeenth century, when Cole's "Adam in Eden" appeared, they seem to have done nothing. Lawrence, however, began the next century with a series of very popular treatises, and from then, and more particularly at the present time, they have done much to elevate the tone, and to infuse brightness and grace into horticultural writing.—B.

Mulching.

(Concluded from page 512, last vol.)

THE process of artificial mulching dates from the remotest antiquity, being practised as a top-dressing, so that its nutritive properties may be washed down by rain, as well as to preserve a uniform degree of heat and moisture in the soil. Top-dressing is usually practised in the autumn, winter, or early spring, and may be passed as different from mulching proper, inasmuch as the material is usually applied in moderate amount, and in a somewhat more highly decomposed state.

In comparatively recent times it was a common practice to cover all outside fruit borders with littery manure and remove the strawy portions in the spring. This practice, according to recent ideas, is wrong, though personally I fail to see in what direction. Surely the autumn and winter rains would wash some of the nutritive elements into the soil? The objection may be legitimate in respect of a heavy coating of manure allowed to remain in a soapy state over the soil after the sun has passed the vernal equinox, but what harm it can possibly do between the autumn and the spring I cannot conceive.

Of spring mulching, except in the case of recently transplanted trees and shrubs, more especially fruit trees, I have no experience, and for these I know that a light mulching of half-decayed manure or even partially decomposed leaves greatly assists re-establishment. Its presence means warmth and moisture, neutralisation of cold and heat extremes. For established plants spring mulching may be regarded as a late manuring, keeping the sun and air out of the soil, and in these respects retarding growth as well as not supplying nutriment for some time. It is, however, only the close, heavy mulch that excludes the spring sunshine, for sweetened horse droppings never fail to tell a tale in favour of the cultivator, and even such close material as cow manure is beneficial on an open, hot soil.

Circumstances alter cases, so that no hard and fast lines can be drawn as applicable in all instances. It may, however, be safely stated that a mulch to be of the greatest value must be applied before the soil becomes hot and dry, and never later than the flowering of the plants. It is then highly beneficial to flowers, fruits, and vegetables if the weather afterwards prove hot and dry. If wet weather ensue the light mulching seldom does harm, there being little danger of its becoming close, excluding air, and keeping the surface soil sodden. For plants or trees requiring help in summer to perfect their flowers or fruits, a mulching of rather fresh cow manure for light soils, and of sweetened horse droppings, or failing these good decayed manure, proves of immense permanent benefit, inasmuch as the present crop is not only profited, but the land is put into better heart for a succeeding one.

Mulching also embraces the mere placing of non-enriching materials on the soil in advance of hot, dry weather. The object in such case is to prevent the evaporation of soil moisture. For this purpose straw, straw chaff, short litter, lawn mowings, and similar material are used, they being non-conductors of the heat from above, and of the moisture and warmth from below. Thus the material checks free evaporation, preserves a uniform degree of heat and moisture, and encourages the formation of surface feeding roots, and for those reasons mulching is an excellent practice.—G. ABBEY.

*Laelio-Cattleya Canhamiana alba.*

THIS bigener was exhibited for the first time at a meeting of the Royal Horticultural Society, held in the Drill Hall, Buckingham Gate, Westminster, on June 26th, 1894, when it was adjudged a well

was exhibited by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, and attracted a considerable amount of attention from the people present. The basal colour of the sepals is green with white at the lower portion and brown blotches; the petals are practically of the same hue.

Oncidium Lanceanum.

WE have few more beautiful *Oncidiums* than this in cultivation. When in good condition the fine spotted foliage alone is very ornamental, but the flowers have a charm about them that is difficult to describe. The grotesque shape, the pleasing contrast of the rich chocolate and yellow petals with the violet purple lip, and the fragrance all combine to make this a truly beautiful flower.



FIG. 26.—*LÆLIO-CATTLEYA CANHAMIANA ALBA.*

merited first-class certificate by the Orchid Committee. It is a decidedly handsome flower, that resulted from a cross between *Laelia purpurata* and *Cattleya Mossiæ*, and it is admirably portrayed in the illustration (fig. 26). As will be seen, the flower is large; and whilst the sepals and petals are white, the lip is rich crimson purple, with yellow lines at the base of the inner portion. This is in particular reply to "H. T. M.," but will also be of interest to other readers of the *Journal of Horticulture*.

Maxillaria scurrilis.

THIS very remarkable Orchid was exhibited at the Drill Hall on July 17th, and was recommended for a first-class certificate by the Orchid Committee of the Royal Horticultural Society. Our illustration (fig. 28, page 99) represents *M. scurrilis* at half size, as had it been reproduced natural size the extraordinary ribbon-like sepals and petals would have spread over about three-quarters of a page. The plant

O. Lanceanum, unfortunately, is not easy of cultivation, and it is sad to see so many fine plants imported yearly, only to drag out a miserable existence for a few seasons and then be consigned to the rubbish heap.

A frequent cause of failure is leaving it too long in the same compost, especially if this is largely composed of peat. Although this *Oncidium* dislikes frequent disturbance at the root, it must have new material by surfacing or otherwise at least every second year. The growth is always finer from peat fibre than from sphagnum, but I invariably use more of the latter than the former when potting this Orchid. This seems rather paradoxical, but the future of the plant has to be considered, and it is better to be content with medium results for an indefinite period than to have more vigorous growth for a few seasons and to run the risk of ultimate collapse. Peat, even of the best description, when decaying, leaves a sour humus behind very injurious to the roots of epiphytal Orchids. This cannot be removed

without taking the plants out of the pots. Decaying sphagnum, on the other hand, if not in too great bulk, is a useful fertiliser, and the young growing points form practically a new rooting medium yearly.

This Orchid will grow freely in the East Indian house, but enjoys a high and somewhat dry temperature at midday. Though requiring to be screened from bright sunshine a dense shade is not advisable, especially at the end of the summer. The foliage must be well consolidated to enable the plants to withstand a few weeks' dry rest in the house where grown. This species, however, will not always be compelled to rest, and when seen to be starting into growth must be encouraged, as it is important to maintain as far as possible the initial vigour of the species. *O. Lanceanum* when newly imported frequently bears leaves from 18 inches to 2 feet in length, but I have never seen these matched under cultivation.

Notes on Schomburgkias.

THE few species which constitute this genus can hardly be classed as superior Orchids, but there are at least three kinds which should be included in representative collections. In habit and appearance they closely resemble Cattleyas, but the culture should be similar to that of the evergreen *Dendrobiums*. The winter temperature ought not, however, to fall much below 50°.

Schomburgkias should be grown in well drained pots with the usual mixture of peat and sphagnum. *S. tibicinis* produces an upright raceme from 3 to 6 feet in height bearing many flowers. These are each 3 inches across, the sepals and petals narrow, wavy, reddish purple. The labellum is three lobed, the centre white, the side lobes rosy red streaked with purple. The pseudo-bulbs of this species are hollow, and in their natural habitat are said to be often occupied by swarms of ferocious ants.

S. Lyonsi is smaller than the last named. The flowers are produced on shorter racemes, and are 2 inches across, white, with brown and purple markings. The pseudo-bulbs are about 10 inches high, thickened in the middle, and each bears a couple of leaves on the top. This species is a native of Jamaica. *S. Thomsoni* is rarer than either of the species named. The flowers are pale yellow, with a dark purple blotch on the lip. There are certain other kinds in cultivation, such as *S. marginata*, *S. crispa*, and *S. rosea*; but the three mentioned above are probably the best and most generally grown. *S. Sanderiana* (fig. 27) with rosy purple is also well worth growing.—H.

Building an Orchid House.

I WOULD like to build an Orchid house, say from 10 to 15 yards long, and from 4 to 6 yards wide, to grow only ten to fifteen of the most handsome flowering varieties for show purposes. Would you furnish me with the following information? The name of a most reliable Orchid firm who could give me the details of the most convenient structure and fittings for the purpose; the list of Orchids they would propose and their prices, with cultural hints. I have full confidence in English dealers, as I have only been growing *Chrysanthemums* for three years, but by following Mr. Molyneux's book and other instructions in your Journal I have always carried off first prizes in all our exhibitions.—F. B., *Genoa*.

[It would be unfair to name individual firms, but there are several who advertise regularly in this Journal who would give every attention to your want. As to the house itself you could cultivate a very interesting and varied collection in a structure of the size you mention, having a partition across the centre to divide the cool section from the warm. Unless you intended growing large specimens the 12 feet wide house with side stages and a centre path would be most suitable. For large plants a house from 16 feet to 20 feet wide with centre and side stages and two paths would be more advisable than the former. In either case have them properly heated, and a system of shallow tanks made with bricks and cement under the stages helps to create atmospheric moisture. The stages should be of latticework, and so arranged that an under stage of solid wood covered with shingle, small coke, or other rough moisture-holding material can be fixed. This must be kept moist in summer by frequent dampings from the syringe. If the house run due north and south, let the cool compartment be at the north end, or if any other aspect let it approach the north as nearly as possible. Blinds must be fitted to each house, the lath roller blind now so much in vogue being excellent for the purpose.

Prices of Orchids vary so much, that information on this head can only be vague. Newly imported plants of some of the very best and most showy species are often sold as low as 1s. each; while, again, good established specimens of the same variety may be worth a guinea. All depends upon the individual plant and kind, and the same is true of culture. Notes on various species appear regularly in our column devoted to Orchids, and to these you may refer, while in case of any point on which you are in doubt we shall be pleased to give information. We are glad you have found the *Journal of Horticulture* helpful, and wish you every success in your new venture.]

Lettuces All the Year Round.

FRESH crisp heads of this greatly esteemed vegetable are at all times welcome, and as a rule not difficult to produce throughout the summer and early autumn months. During winter and early spring, however, gardeners are generally satisfied if they can maintain a supply of small heads having just enough heart to be useful for mixing with the mysterious concoctions of the salad bowl.

The last week in July is an excellent time to make sowings of such varieties as Paris Green Cos, Par Excellence, Stanstead Park, and Nansen, to supply heads during autumn and early winter. If the seeds are sown broadcast, and the soil is kept regularly moistened, the young plants advance very quickly at this time of the year, and are soon ready for pricking out 4 inches apart. The ground prepared for their reception should, if possible, be light and rich, and receive a dressing of soot, which helps greatly to keep insects in check as well as to stimulate the young plants.

When they are ready for placing in their permanent position they ought to be lifted with small balls of earth attached, so as to avoid a check and secure rapid growth. The earliest plants may be planted a foot apart in any open situation at command, but later ones should, if possible, be planted on a warm border, as in such position they often escape injury by frost, when those in open quarters are quite ruined. It is also an easy matter to give sufficient protection with straw, canvas, or bracken when the plants are in a sheltered position, and then if very severe weather continue they should be lifted and planted in frames, allowing space enough for the air to circulate freely around each plant. Our seasons are so variable that gardeners have to provide against such contingencies, although during some seasons Lettuce are quite safe in the open till the end of November.

A sowing to supply plants to stand the winter should be made during the third or fourth week in August. Suitable varieties for the purpose are Paris Green Cos, Black-seeded Bath Cos, and Hicks' Hardy White Cos. Among Cabbage varieties, Nansen (perhaps the hardest of all), Stanstead Park, and All the Year Round form a trio not easily surpassed. All the plants resulting from sowings made in August should be pricked out in rough frames or on south borders, and during severe weather they ought to be protected with straw or bracken. Such covering, however, should be removed whenever it is safe to do so, or the young plants will decay. Slugs are often troublesome; for the purpose of keeping them in check dust the plants with powdered lime and soot, each being applied on a separate occasion. Traps, in the form of Turnips cut into slices, should also be laid down and examined daily.

During February or March, whenever the weather is favourable, lift some of the earliest plants with good balls of earth attached, and set them 9 inches apart at the foot of a south wall, taking care to thoroughly enrich the soil with well decayed manure before planting. In so sheltered a position the plants grow very quickly, and give an early supply of crisp heads, if watered freely when the soil is dry and the weather bright. The main stock of plants should be placed in a situation sheltered from the north and east, but open to the south. Plant a foot apart in drills 3 inches in depth, and after a time draw the soil round the stem of each plant. In order to hasten blanching tie up the leaves lightly as soon as they begin to form a heart and throughout all stages of growth. Stir the soil frequently with a hoe, and once or twice during showery weather apply nitrate of soda at the rate of $\frac{1}{2}$ oz. per square yard.

Early in February sow in boxes under glass Improved Early Paris Market, and Improved Paris White, in order to secure plants to follow closely those sown during August. The same varieties should be sown on a warm border in the open air about the middle of March, and early in April make a large sowing of such fine summer varieties as Leviathan, Giant White Cos, Cannell's Giant Cos, Continuity, and New York. During May and June small sowings may be made once a fortnight on a north or west border.

Throughout the summer months a cool situation should as far as possible be selected for the plants, or it is often difficult to prevent them from "running" to seed. North and west borders may be utilised for the purpose, or spaces between fruit trees or bushes when there is a fair amount of light. It is also sometimes an excellent plan to sow seeds thinly where the plants are to remain, as during very hot weather plants so raised heart nicely, while transplanted ones run to seed. Copious supplies of water, in which nitrate of soda at the rate of a quarter of an ounce per gallon, assists Lettuce wonderfully during hot weather, and often prevents them from bolting. If a mulching is also given these dual practices will enable the cultivator to maintain a regular supply during the most trying seasons.—KITCHEN GARDENER.

The Cultivation of Peaches.

It may not be generally known that the Peach was originally classed as poisonous. In "Rhind's Vegetable Kingdom" Sickler considers Persia as the original home of the Peach, which in Media was



FIG. 27.—SCHOMBURGKIA SANDERIANA.

considered unwholesome, but when planted in the alluvial soil of Egypt became pulpy and delicious. According to Columella also, when first brought from Persia into the Roman Empire, the Peach possessed deleterious qualities. This, however, Knight considers to be owing to the fact that they were only almonds swollen, or imperfect Peaches, which are known to contain prussic acid. In most parts of Asia the Peach has been grown from time immemorial. The date of its introduction into Greece is uncertain, but the Romans seem to have introduced it into their country, direct from Persia, during the reign of the Emperor Claudius. It is first spoken of by Columella, and afterwards by Pliny. The Peach was introduced into England in the sixteenth century.

Linnæus divides the Peach into two sections. That with the downy fruit as the Peach commonly so called, and that with the smooth-skinned fruit as the Nectarine. There are, however, various instances of fruit of both descriptions growing on the same plants. For example, trees raised from seeds have not only borne both the downy and smooth-skinned, but fruits have been produced which have been smooth-skinned one side and downy on the other. The French consider them identical, and arrange them in four divisions — namely: 1, The freestone Peach, the flesh of which separates readily from the skin and stone; 2, the freestone Nectarine or smooth Peach; 3, the clingstone Peach, whose flesh adheres firmly to both skin and stone; and 4, the clingstone smooth Peach or Nectarine. The Peach is more grateful to the palate than perhaps any other fruit raised in England, either naturally or by art, with perhaps the exception of the Pine Apple. It surpasses the Grape in richness, and is more delicate than the Melon.

It has often been said that the Peach will not pay for outdoor culture. Of course some protection from frost must be provided, particularly when blooming in the spring. I do not say that they can be grown successfully as standards or otherwise in the open, but planted against a south, or west, or south-east wall, they will give admirable results, particularly if the same care is extended to them as is bestowed on those grown under glass. For instance, under glass the tree is planted in a specially prepared border; it is properly attended to in the matter of syringing, tying, and watering; it is kept free from all insect pests, and all its requirements well looked after.

How often, may I ask, does the tree outside receive this treatment? It is frequently planted in the ordinary soil of the garden, perhaps where some other tree has been growing for years; it is nailed to the wall, or whatever it is planted against; the young shoots are tied or nailed in and allowed to remain until the ties decay, instead of being detached from the wall annually, as would be the case with trees

growing under glass. In the latter case it would be syringed at least three times a day in the growing season, but outside it would probably have to depend on the rain, even this being frequently diverted by a coping on the top of the wall to keep the spring frosts away. If this coping remain too long sufficient moisture is not obtained by the tree, and it will become infested with red spider and green fly, and will eventually be an eyesore to everyone.

I have never known a tree that was treated in a proper and rational manner fail to give satisfactory results over a series of years. To make a good start in Peach growing, either indoors or out, great care must be taken to secure suitable trees. They must be well balanced, that is, the clean branches should be as nearly as possible equal in numbers and size on each side, and in the shape of a fan. It is important, too, that the variety be true to name, as nothing is more annoying than to find, after cultivating a tree and paying special attention to it, when the fruit appears, that it is another and perhaps inferior variety. If trees three or four years old are planted in the autumn, just as the leaves are falling, a crop of fruit will be obtained in the succeeding year. If maiden trees are bought the grower will have to wait at least a year or two for fruit. Before planting all damaged roots should be cut away with a sharp knife, and when the tree is placed in position the roots must be carefully spread out, allowing no two to touch, so that they are free to make a proper start. A good position for a Peach tree indoors is where the branches can be trained about 9 inches below a glass roof, facing south, west, or east. They do fairly well on the back wall if the light is not obscured, but I prefer the first-named system. In training a Peach tree it should be borne in mind that it bears its fruit upon the previous year's wood, and consequently the production of well matured wood is of great importance. Each healthy leaf bud that is permitted to grow will produce a shoot which will in its turn give others which are termed lateral growth, and these will produce the fruit and leaf buds for the continuance of growth in the following season.

In tying or nailing in the growth nothing is gained by overcrowding, and 4 inch-s should be allowed between each. In my opinion no mode of training is equal to the fan-shape. If properly attended to from the first it will rarely happen, that however far the tree may extend, there will be a vacant place on the wall, and every part of it will be supplied with fruit-bearing wood. Care must be taken that the sides of the tree be as nearly equal as possible, both in strength and the number of branches. All weakly and exhausted wood should be removed at the commencement of each season, when the only pruning that is necessary should be done. All the growth ought to be regulated by disbudding in the spring and early summer. The Peach, if trained against a wall, or in fact any position, will form much more growth than is required.

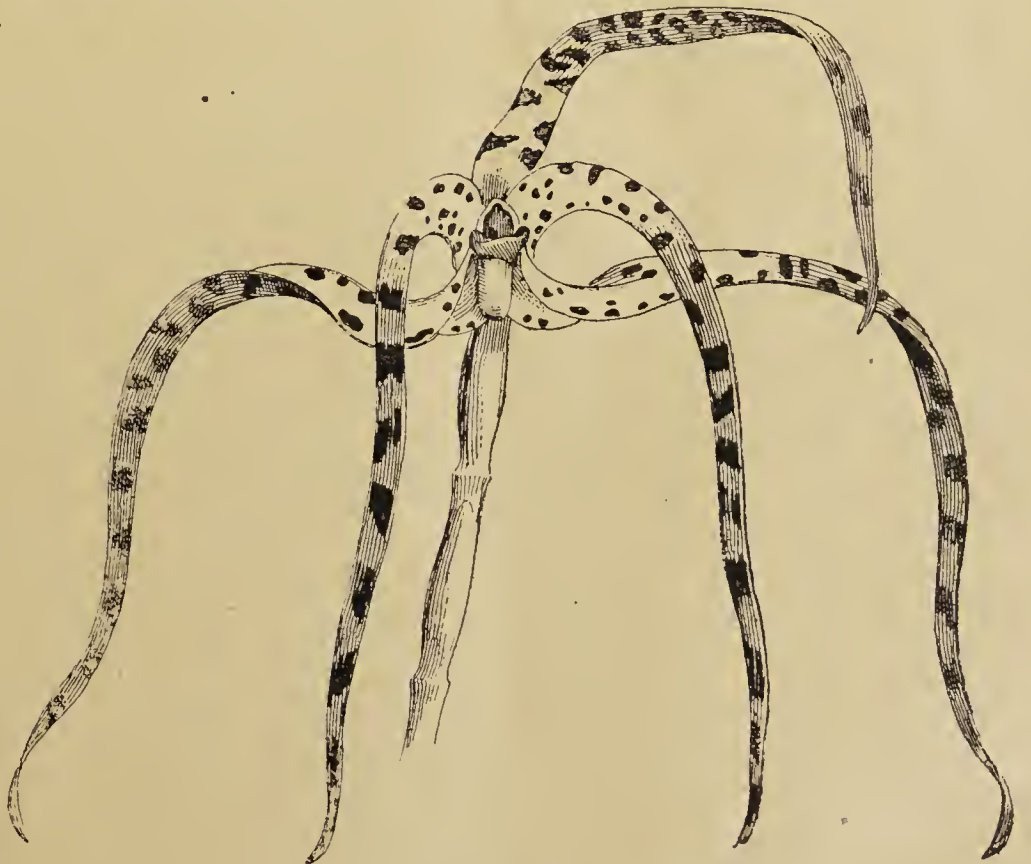


FIG. 28.—MAXILLARIA SCURRILIS.

and it is much better to remove all unnecessary growth at once than to allow it to grow and so exhaust the tree. Thus we have recourse to disbudding. In carrying out this operation all growths starting straight from the wall should be removed, only being allowed to remain for which there is room for development. The tree should be looked over two or three times during the early part of the season, and the

shape required carried in the mind's eye. It will then be found that by disbudding when the tree is starting into growth little use of the knife will be required, the whole of the arranging of the branches being done by disbudding early in the season, and a little later by pinching the most vigorous shoots.—(*Paper read at the Woking Horticultural Society by MR. G. CARPENTER, West Hall, Byfleet.*)

(To be concluded.)

A Glance at Sweet Peas.

THE hardy annual of the year is undoubtedly the Sweet Pea. The week of July hot weather soon advanced the plants into bloom, the recent rains having given them a healthy and strong appearance, and the week preceding the Crystal Palace Conference and Exhibition to celebrate the bicentenary of the introduction of this favourite and dainty flower could scarcely have been a better one to bring on the blooms to perfection. We are now enjoying its exquisite perfume, and feasting on the numerous colours and shades produced by Sweet Peas. The best selections are free-flowering, and bear flowers extremely charming, of good shape, large size, interesting and brilliant hues.

Among the mixed unnamed varieties of Sweet Peas there are many of superb and charming excellence. For general purposes these varieties do as well as the more carefully selected. The only thing is that when sowing them one does not know what colours will be produced; but in a properly mixed selection one may depend on a proper proportion of every colour, shade, and mixture known.

The named varieties are exceptionally numerous, and those who grow them are amply rewarded in having flowers of a chaste and attractive character. The white varieties are exceedingly popular—Blanche Burpee and Mrs. Sankey are admirable varieties of exquisite form; Emily Henderson is also a good pure white with broad erect standards; Queen of England may also be included as a flower of good substance. Those who care for dwarf Sweet Peas should grow White Cupid, which only attains to the height of 8 inches. Opinions vary considerably as to the merits of such miniatures in growth, and with some they are not satisfactory. There is a pink variety the same size named Pink Cupid. A good representative yellow is Primrose Queen. Among shades of red one of the largest flowered varieties is Her Majesty; the flowers have bright rose standards and pale rose wings. Cardinal is a rich crimson scarlet; Firefly a glowing crimson. The red striped varieties are exceedingly pretty. Queen of the Isles is striped bright scarlet; Mrs. J. Chamberlain rose striped. Blue and purple striped are among the most effective. Princess of Wales is shaded and striped mauve on a white ground, rendering this variety very pretty. Duke of Westminster is an excellent new variety, very vigorous and free-flowering, one of the handsomest sorts recently introduced, the flowers being rosy purple. Other purple and maroon varieties are Stanley, chocolate purple; Dorothy Tennant, rosy mauve, very attractive and distinct. Indigo King is, as its name implies, of a rich indigo blue; and Boreatton is a very dark maroon, similar to Wallflowers in colour.

Blues of various shades are well represented in several excellent varieties. Princess May is a pretty lavender or pale heliotrope tint. Countess of Radnor, a mauve blue. Emily Eckford is almost a true blue variety. Countess Cadogan has standards of a bright shining violet, overlaid with a light sky blue. The wings are a pure sky blue. Pink and rose coloured varieties form another interesting class of colours. Princess Beatrice is, perhaps, one of the most popular varieties in this colour, being largely grown as a separate colour because of its effective qualities when massed together, either growing on the plants or as cut blooms. The variety, Apple Blossom, has rose standards and blush wings. The flowers are large. Cottage Maid is similar in colour to the preceding, the combination of rose and blush being very chaste. The same association of colours appears in Mrs. Gladstone. Lady Penzance has flowers of good substance and of a dazzling pink. One of the newest pinks, the Hon. F. Bouverie, has flowers of very good shape and substance; the standards are a beautiful coral pink, the wings a light pink. Orange Pink should also be mentioned as a superior variety, the standards being bright orange pink, flushed scarlet, and the wings a rose pink. Blanche Ferry is a brilliant pink, shaded white.

The best strains of Sweet Peas are undoubtedly the giant flowered. The stalks or sprays bear as many as four flowers, and these are of larger size than it is customary to see in the older varieties. Constantly selecting the best and most superior blossoms borne on the best plants has resulted in fixing a superior strain. In addition to the large size of the blooms, and their superb variety of colours, they have mostly the advantage of having long footstalks. This enables them to be used most effectively for table decorations, to which use they are specially adapted because of their light and graceful character. The

delicious perfume which is one of the chief characteristics of the Sweet Peas has not been lost in the advance in size and improvement in diversity of colour. To lose that would indeed be a misfortune. The blossoms associate well with other flowers. Their introduction into a bouquet or arrangement of mixed flowers always improves the appearance, especially if deftly placed and not too many employed.

A few rows or clumps of Sweet Peas grown in good soil are usually so prolific in flowering that there are blooms in plenty, both for cutting, for house decoration, and remaining on the plants to embellish the garden; but this point must be noted, that allowing seed pods to remain will speedily check the further production of flowers. It may entail some trouble to cut off the seed pods from a large number of plants, but it is essential to prolong the display. Of course the flowers may be cut earlier, but when the plants are used solely for garden decoration the blooms remain as long as possible. This may be done without detriment if clipped off as soon as over. Another matter, in order to continue the present brilliant display, is to maintain the roots moist. This may be effected by frequent watering; but a better plan is that of affording first a liberal watering, enough to well moisten the roots and surrounding soil, and then lay down a proportionately liberal mulching of manure, to prevent the rapid evaporation, which is certain to occur. This process has the good effect of lessening the labour of watering, and at the same time benefiting the plants. Further watering, especially in dry weather, will be needed, as much nutriment is drawn from the soil. The water may be applied over the mulching. Liquid manure will also be necessary, and can be given in the same way. Soot water and the drainings from farmyards and stables, given in a diluted state if strong, may be used. Guano is useful, as well as top-dressings of some general artificial fertiliser, sprinkled on the surface and washed in.

Keep the rows clear of weeds, which not only choke legitimate growth, but prevent due quantities of air circulating about the plants.—E. D. S.

Artistic Arrangements of Sweet Peas.

IN the superb exhibition of Sweet Peas at the Crystal Palace, and of which we gave a complete report in our last issue, it was observable both in the competitive and non-competitive section that attempts had been made to produce an artistic effect. Some of the most skilful efforts were rewarded with delightful results, but, unfortunately, all were not alike successful. There were, however, sufficient attractive combinations to demonstrate to visitors how peculiarly the Sweet Pea is adapted for this purpose, and the natural outcome will be their much more frequent use for home adornment in the future. We are enabled to place before our readers a photographic reproduction (fig. 29, page 101) of a corner in the exhibition, in which Messrs. Jones & Sons, Shrewsbury, N. Davis, Framfield, and F. C. Fowle, Teignmouth, staged some very attractive exhibits, that were both admired and criticised by visitors as well as experts. In fig. 31, page 109, our artist gives readers of the *Journal of Horticulture* his ideas of one or two modern varieties, which, if sufficiently large, are scarcely up to the form required by the classification committee.

Herbaceous Calceolarias.

THOSE who intend undertaking the cultivation of the above for a display of bloom next season must commence operations without further delay, and should acknowledge at the outset that to be successful in their culture no haphazard system will avail, for from the time of sowing the seed until the flowering season is over they must have unremitting attention. Calceolarias will not endure at any time extreme variations of temperature. Cool, moist, airy treatment is what they require, with plenty of light, but shade from the rays of the sun at all stages of growth is essential.

Sowing Seed.

Seeds may be sown from May until August, but preference should be given to one made in June, the plants raised from this sowing, in my opinion, producing more robust and therefore quicker growing plants than is obtained from the early or late one. Pans for the reception of the seed will be found more suitable than pots. They must be perfectly clean and thoroughly well drained, covering the crock with a layer of moss to prevent the fine soil washing down among the drainage. Fill them with a mixture of finely sifted loam and leaf soil in equal parts, to which should be added a small quantity of wood ashes and sufficient sand to keep it in an open condition. It will be found advisable to water through a very fine rose, afterwards allowing the pans to remain an hour or so prior to sowing the seeds. Everything now being in readiness open the packet carefully and distribute the minute seeds evenly over the surface, slightly press down, and cover with a very little fine soil. Now take the pan and stand in cold, shaded frame behind a north wall.

Cover the pan itself with a piece of glass covered with brown paper or damp moss. This not only checks evaporation, but also prevents the attack of vermin. Wipe the under surface of the glass each day until the seeds have germinated. Should water be required it must be given by partially submerging the pan in water, allowing it to filter upwards.

Treatment of Seedlings.

In about ten days the majority of the young plants will have made their appearance. Afford prompt attention by the removal of the glass, and otherwise nursing the young seedlings. Keep a sharp look out for slugs, or one morning it will be found that the young plants have disappeared. On the appearance of the rough leaf prick off in either pans or boxes, at a distance of 3 inches apart, using a rather coarser mixture; transfer again to the frame, keeping them well up to the light, affording cool, moist, growing treatment.

First Potting.

As they become ready keep them moving by repotting into well-drained 3-inch pots; a richer soil may now be used by adding a little

for by the production of long sappy growth with, probably, attacks of red spider thrown in. By the latter part of October their proper place will be on a shelf in a cool span-roofed greenhouse, as near the glass as possible, attending to their requirements in the way of water, picking off decayed leaves.

Final Potting.

Probably before this takes place, which should be, if all has gone well, towards the latter part of February, the plants will have shown a flower truss. This always carries the largest individual blooms, but to obtain fine specimens it is advisable to pinch this, in order to obtain finely balanced stocky plants. As regards soil, a similar mixture to the one used at the previous potting will suit their requirements, though a little of some approved fertiliser, such as Clay's, may be added. The soil should be particularly sweet, any sourness proving fatal to flowering. Careful potting must be practised, avoiding injury to the leaves, which are at all times very brittle, and susceptible to the least touch. Press the soil moderately firm, but avoid ramming, or the roots will not ramify freely; replace them in their former quarters, and keep them cool



FIG. 29.—A CORNER OF THE SWEET PEA SHOW.

dried cow manure. Attend to the requirements of the plants in the way of water, never allowing them to become dry. Keep a sharp look out for green fly, vapourising with the advertised remedies, according to the directions that accompany the packages. Once insect pests obtain a foothold curling of the leaves occurs to the speedy deterioration of the young plants.

Second Potting.

By the latter part of September, if all has gone well, they will be ready for another shift, this time into 5 and 6-inch pots, according to the size and strength of the individual plants. As these will be the size in which they will have to stand the winter, especial care must be taken to insure good drainage. For this potting a suitable compost will be found in a mixture of two parts fibrous loam, one each of leaf mould and well dried cow manure, with small pieces of charcoal and a little soot, while sufficient sand must be added to insure a thorough porous condition of the soil.

A pit for a short while longer from which frost can be excluded will suit them admirably, but bear in mind the less fire heat used in their cultivation, the better for their welfare; any excess of this will be paid

and near the glass, in order to encourage firm sturdy growth; do not be sparing of syringing between the pots, and occasionally on the leaves; keep decaying leaves picked off. Wage war against green fly by vapourising promptly, taking care to have the foliage dry prior to doing so.

When they are full of roots liquid food may be resorted to, avoiding all manures of a hot nature, or which have much of the element lime in their composition. If the plants are strong and healthy, with that fine large glossy foliage which expert Calceolaria growers know so well how to produce, they will stand a fairly strong beverage. Cow drainage, diluted according to strength, alternated with clear water, answers the purpose admirably. Stake and tie out the plants a week or so before flowering, and during the period of display water with clear water only. Maintain a cool, buoyant atmosphere, admit air freely not only to prolong the display, but to disperse all moisture as quickly as possible, and keep them well shaded from the rays of the sun. If seed has been procured from a reliable source the grower will be amply repaid by a display of plants which for richness of colours would be difficult to surpass among any other class of plants.—GEO. HAGON.

NOTES & NOTICES

Recent Weather in London.—Since the thunderstorm that passed over the metropolis on Saturday the weather has been very much cooler and pleasanter. On Sunday there was heavy rain at intervals, but Monday and Tuesday were brilliantly fine; the sun shone with much power, but the fresh breeze was delightfully invigorating. Wednesday opened dull and wet.

A Plaistow Garden.—The Mayor of West Ham (Alderman G. H. Bethell) recently opened St. Mary's Churchyard, Plaistow, as a public garden for one of the most densely populated districts in the East-end of London. Sir William Vincent (chairman of the Metropolitan Public Gardens Association) said the ground had cost £450 to lay out. Since the formation of the association, sixteen years ago, 104 gardens, comprising 130 acres, had been opened, at a cost of over £43,000. They had also in contemplation a new lung at Stratford (St. John's Churchyard), and the old Boleyn Castle (Anne Boleyn's residence), at Upton, with its acres of land, as a public pleasure ground.

Regent's Park Floral Fete.—The floral fête in aid of the Widows' and Orphans' War Fund, held at the Royal Botanic Society's Gardens, Regent's Park, on Thursday proved highly successful. It was organised by the inhabitants of the borough of Marylebone, and among its principal promoters were Mr. Brooke-Hitchings, chairman of the Marylebone Vestry, and Mr. Mitchell, who gave several valuable prizes for the best decorated carriages and bicycles. The first ladies' prize was secured by a bicycle elaborately decorated with fruit and flowers. The first carriage prize was given to a dainty little vehicle adorned with pink "Geraniums." Prizes were also awarded for a carriage beautifully decorated with fruit and flowers, and for a car dressed so as to represent a sulphur butterfly. There were concerts and entertainments, and at dusk the grounds were illuminated with charming effect.

Plantain Flour in Bowel Complaints.—Dr. Reginald Ashe, the superintendent of the gaol at Mymensingh, has lately used with much success in the treatment of diarrhoea and dysentery, flour made from the Plantain. He informs an Indian daily paper that any variety of Plantain will do, but the kutch kela (*Musa sapientum*) from its size is the best to use. The Plantains are cut just before ripening; they are skinned with a sharp wooden knife, so as to avoid blackening, then cut into thin slices, sun dried, pounded in a mortar, and sifted through muslin. The fine powder or flour should be stored in air-tight glass bottles. The dose is 2 ozs. for each meal, cooked in a brass vessel with a little water. Dahi or buttermilk can afterwards be added. The taste of the Plantain powder is slightly astringent, but fruity and palatable. There is no doubt of the high nutritive value of the Plantain. The flour is said to be easily digested. It is well worth trying for patients with chronic bowel complaint who cannot digest milk. A reference to Watt's "Economic Dictionary," Vol. V., 298, will show that the Plantain in many forms has been used in bowel complaints.

Bristol Gardeners' Association.—The monthly meeting of the association was held at St. John's Parish Room, Redland, on Thursday, July 26th. A large attendance was presided over by Mr. A. J. Hancock. The subject for the evening was "Sweet Peas," by Mr. J. C. House of Coombe Nurseries, Westbury-on-Trym, who is a recognised authority on the subject. In opening the subject he paid an eloquent tribute to the efforts of Mr. H. Eckford of Wem, who has done more than any other man to bring the popular flower to the high level of culture and beauty we have in it to-day. Mr. House claimed for Sweet Peas an attractiveness and usefulness for all forms of floral decoration to be found in hardly any other flower, and gave very clear details as to the methods of culture likely to secure the best possible results, urging the need of planting thinly, firmly, and in well-manured ground. He also gave many useful hints as to sticking, watering, and shading, closing with a list of the varieties he thought the best for ordinary and exhibition culture. Mr. House's lecture was much appreciated, and a vote of thanks to him for his attendance was carried by acclamation. Prizes for six bunches of Sweet Peas attracted keen competition, the awards being Mr. Curtis first, Mr. Maidment second, Mr. Harford third. Prizes for six Carnation blooms went to Mr. Harford and Mr. Staddon.

The Alexandra Palace.—Alexandra Palace is not yet secured for the public. A sum of £144,500 has been voted towards the £150,000 required. The Southgate District Council on the evening of the 25th ult. refused to contribute. Surely this body may be induced to rescind this resolution.

Gardening Appointment.—Mr. Wm. Munt has been appointed head gardener to Bailey Hawkins, Esq., Stagenhoe Park, Welwyn, Herts. Mr. Munt has held the position of foreman at Aldenham House, under Mr. E. Beckett, during the past four years, and takes over his new duties on the 13th August.

The Horticultural College, Swanley.—The annual distribution of the prizes and certificates won by the students of the Horticultural College, Swanley, including the college silver salver, and the silver-gilt medal, and certificates awarded to students of this college in connection with the Royal Horticultural Society's examination, took place in the lecture saloon of the College recently. Mr. F. W. Cornwallis, M.P. (Maidstone), presided over the function, which was graced also by the presence of Mrs. Cornwallis, who handed the prizes to the successful students. Mr. and Mrs. A. T. Waring, Principal M. Eason Wilkinson, B.A. (Cantab), and Miss Cons were also upon the platform. Prior to and after the prize distribution the visitors inspected the college grounds and glass houses, the table decorations, preserved fruits, and other college produce which had been brought together within the building with the view of showing those ladies and gentlemen interested in the welfare of the institution how things are done at Swanley.

Covent Garden.—Covent Garden dealers who buy and sell fruit in the Floral Hall are complaining of the lack of consideration shown to them by the Bedford Estate. During these hot days the sun has poured its rays through the glass roof, spoiling tons of good fruit. Awnings under the roof and big ventilating fans at either end would have saved the dealers hundreds of pounds. "Considering that we sell £50,000 worth of fruit a week in this hall, and pay the Duke of Bedford £10,000 a year in rent and tolls, I think he might do something to keep the fruit cool," said one dealer. "The real truth of the matter is that the whole of the markets require reconstruction, with proper cellars and refrigerating rooms. Covent Garden Theatre and the Tavistock Hotel ought to be pulled down and a great central fruit and vegetable market erected. We may see it done when the Borough of Westminster gets into working order. The County Council is too busy to attend to it. In the meanwhile fruit spoils in the hall for the want of two fans and a few pounds' worth of light awning." Asked why the fruit is allowed to spoil for the sake of an awning, one of the officials of the market stated that it was usual to put an awning under the dome of the Floral Hall in the summer, and pointed out two rolls of canvas waiting to be hoisted into place. "You're rather late in putting it up," suggested a representative of the "Daily Express." "Why," said one of the men, "the summer's hardly begun yet."

The Lloyd Park.—Amid scenes betokening enthusiasm and appreciation the beautiful park adjoining The Winns, Forest Road, Walthamstow, which has been given to the people of Walthamstow by the family of the late Mr. Edward Lloyd, was formally opened on Saturday afternoon by Mr. Sam Woods, M.P. The residents in this rising suburb have now been placed in possession of one of the most picturesque breathing spaces in the metropolis. In the old manor which adjoins the park—also now the property of the people—Mr. William Morris was born, and here also Mr. Edward Lloyd and his family lived for many years. Covering an area of 9½ acres, the grounds retain their beautiful rural appearance, and the visitor may find many lovely features—tall spreading Oak trees, with rustic shelters standing invitingly beneath them, an ornamental lake boasting punts, swans, and waterfowl on its surface, which has been made uniformly deep by the District Council; and countless shady nooks and foliaged walks. Situated in a fine annexe, purchased by the town, there is a cricket ground, a pavilion in course of erection, and a children's playing ground, fitted with a gymnasium. The house itself, says "Lloyd's," is an old mansion, built about 1760, and it is proposed to eventually convert it into a technical institute or museum; for the present it will be entirely repaired, a verandah constructed at the back, and the largest chambers will be variously converted into a refreshment room, a branch library, and a reading room. For the additional property, supplementing the Lloyd bequest, the Council have given £4000, and another £7000 is being spent in the various alterations and additions.

The Strawberry for Gout.—Gout is one of the most esteemed and fashionable diseases of the day. It was always rather favoured by young men, not undesirous of its being known that among their progenitors were some rare old portwine-drinking squires; and now nearly every twinge and ailment is set down to goutiness. Why do not the fashionable gout doctors try a very old and simple cure for gout—namely, Strawberries, which are so plentiful at the moment. It would be a hugely popular one, no doubt, as much liked as champagne and oysters for influenza. The great Linnæus declared that he was cured of his gout by liberal doses of fresh gathered Strawberries.

Plant Mythology.—The Greeks and Romans of ancient times are not the only people who have curious mythological stories about the origin of flowers. Scandinavian literature abounds with these pretty tales. Even the "red" Indians had their say, in like manner, about these things. Among some of the Canadian Aborigines, Pines and Cedars originated from strong men who were planted by their feet in the ground, and branches grew out from their bodies, in response to wishes to live for ever. It is singular that similar stories about the origin of evergreens have prevailed among ancient man in many isolated points. The "tree of life" in Babylonian history was undoubtedly the Cedar of Lebanon; and the Deodar Cedar, a close relation of the Lebanon Cedar, is the "tree of life" of the ancient Hindoos.

Newton Mearns Rose Show.—The fourth annual exhibition of Roses in connection with this society was held in the Public School Rooms on July 20th. The entries were in excess of any past year, and the quality of exhibits was quite up to the average. The nurserymen's section, the principal feature of the show, consisted of several large classes, and made a brilliant display. It was observed, however, that some of the blooms were bruised and bleached by the weather. Messrs. Alex. Dickson & Sons' silver medal Susanne Marie Rodocanachie was exhibited freely. The same firm's new Rose Robert Scott, which received a certificate of merit, was perfect, and it will become one of the first Roses in the future. Messrs. D. & W. Croll, Dundee, also showed well. In the gardeners' section Mr. Melville, of Hazelden, carried the challenge trophy for twenty-four splendid blooms (H.P.'s and H.T.'s). In the amateurs, open, Mr. J. Fyfe was the principal prizetaker, having in most instances magnificent blooms.

Walsall Florists' Society.—Under most favourable auspices "the coming of age" annual exhibition of this flourishing society took place as usual in the Public Arboretum on July 23rd. The groups arranged by Messrs. W. V. Macdonald, Edgbaston, W. Vause, Leamington, and William Finch, Coventry, were superb. Specimen plants were well shown. Roses were beautiful, especially those from Messrs. Townsend & Sons, Worcester. Sweet Peas were sparsely shown, but hardy herbaceous cut flowers formed a pleasing feature. Carnations were pleasingly exhibited, Mr. G. Faulkner winning with very good blooms. Pansies, considering the tropical heat that had lately prevailed, were freshly shown; the prizetakers were Mr. W. Pemberton and Messrs. J. Townsend & Sons. Tomatoes were capitally shown. For Messrs. Webb's offer for the best collection of six distinct kinds of vegetables Messrs. W. Pemberton & Sons were awarded the first prize. The amateurs were represented by creditable exhibits in nearly all of the classes in the section, and the cottagers' classes were open to the same remark.

Weybridge Horticultural Society.—The second summer exhibition was held on July 9th in the grounds of The Hollies, Weybridge, and was a distinct success. Mr. Baynes, secretary, had all the arrangements well in hand. For six specimen plants in flower Mr. J. Lock, gardener to J. Swinfen Eady, Esq., Oatlands Lodge, Weybridge, won with well flowered examples. Mr. W. Jinks, gardener to E. Bruce, Esq., The Beeches, Walton, was first for six foliage plants. Exotic Ferns were well represented. Miscellaneous groups in oval form were effective. In the leading class Mr. Lock was an easy first, while Mr. W. C. Pagram, gardener to — Courtney, Esq., Weybridge, won pride of place in a smaller class. Cut flowers were staged in quantity, making an imposing display. Sweet Peas were quite a feature. Fruit was plentiful and good. For a collection of eight dishes Mr. Lock won with good produce. Black and white Grapes were well shown by Mr. Lock, as also were Nectarines. Dr. Hogg was the best Peach staged, and secured the first place for Mr. Watford. Vegetables were thoroughly represented. From Messrs. W. Cutbush & Sons, Highgate Nurseries, came a charming exhibit of Carnations, and from Messrs. W. Tayler, Hampton, Spooner & Son, Hounslow, and G. Jackman & Sons, Woking, Roses.

Highgate Horticultural Society.—This society held its sixteenth annual exhibition on the 28th ult. It was the best show of vegetables yet exhibited, the choicest examples being Potatoes, Broad Beans, and Marrows. Mr. C. Parling, an old member, sent up a splendid basket of garden produce. In flowers Carnations, Pansies, and Musk were excellent, many of the blooms possessing exceptional beauty.

South African Vineyards.—In a country so large as, and with the varied climates of, South Africa there are naturally entirely different conditions governing the growth of the fruit. There is the mild and equably watered zone extending 100 miles from Cape Town. Frosts are seldom severe here, and the rainfall, though mostly in winter, is sufficient to cause moisture all the year round. This is where the finest varieties of all temperate and many sub-tropical fruits flourish. Of these the principal is the Grape, large quantities of which are sent to the markets of the interior. Since the appearance of that Vine scourge the phylloxera in 1886, and the consequent destruction of many vineyards, it has been found necessary to graft the European Vines on to American stocks, and by this means the production has been much increased. This has not been carried out without much ontlay, and many of the former wine farmers have disposed of their farms to more enterprising men—newcomers for the most part. The new proprietors have been very energetic in introducing choice varieties of fruit trees from other countries, and the change can certainly be said to have been of immense benefit to the colony. In this part the farms are much smaller and the population denser than further inland, and it is to be expected that soon light lines of railway will branch out in all directions.

The Reading Gardeners' Association.—The annual outing of the above association was held on July 24th, and proved a great success, although the heat was exceedingly trying. The outing took the form of a river trip to Henley, when, by the kind permission of F. C. Crisp, Esq., and Mrs. Noble, visits were made to Friar Park and Park Place. The party included the president, C. B. Stevens, Esq.; Messrs. Fry, Hinton; Neve, Sindlesham; Barnes, Bearwood; Pope, Wargrave; Baird, Henley Park; Townsend & Ritchings, Wellington College; Wise, Blackwater; Moyse & Pontin, Wokingham; Pigg & Butler, Maidenhead; Fisher, Brimpton; Cox & Bowie, Calcot; Martin, Sonning; Lees, Earley; Alexander, Turner, Bailey, and Smith, Reading. Arriving at Friar Park the party was conducted through the gardens and grounds by Mr. Knowles, and although everything was of the first order, yet without doubt most interest was centred in the magnificent rockery and the wonderful caves. After a two hours' ramble the visitors proceeded to Park Place, where, under the shadow of the Old Archway, built by material brought from the Reading Abbey some 120 years ago, luncheon was partaken of. Afterwards, under the guidance of Mr. Stanton, an inspection of this place was attempted. The Sweet Peas, Carnations, and the enormous crops of fruit claimed attention. A special privilege, which was greatly appreciated, was the opportunity of inspecting Mrs. Noble's wonderful collection of foreign birds. The ramble ended, and tea partaken of, the boat started for Reading, which was reached about 9 P.M. The arrangements made by the hon. sec. left nothing to be desired.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
Sunday.. 22	W.S.W.	deg. 69.6	deg. 62.8	deg. 79.5	deg. 58.6	ins. —	deg. 70.8	deg. 65.9	deg. 59.9	deg. 58.3
Monday.. 23	W.N.W.	72.4	66.0	84.0	67.3	—	71.5	65.9	60.1	65.5
Tuesday 24	W.S.W.	78.0	69.5	87.2	59.8	—	72.3	66.3	60.3	52.7
Wednesday 25	S.S.W.	80.0	68.5	91.7	58.4	—	72.7	66.7	60.5	51.0
Thursday 26	W.N.W.	73.1	62.5	79.8	59.2	—	73.5	67.2	60.7	58.0
Friday.. 27	E.S.E.	73.7	62.3	77.8	61.3	0.53	72.5	67.3	61.0	52.3
Saturday 28	S.S.W.	65.7	63.1	76.3	60.8	—	69.5	66.9	61.2	58.2
MEANS ..		73.2	65.0	82.3	60.8	Total 0.53	71.8	66.6	60.5	56.6

The first part of the week was very hot, which culminated in a heavy thunderstorm on the 27th, when about half an inch of rain fell. It has been much cooler since that date.



Strawberries Sun-scalded.

IN your issue of 19th inst., page 61, your correspondent "G." says it would be interesting to know if anyone had any experience of Strawberries scalded by the sun. Last year the outside row of a breadth of John Ruskin was so badly scalded that only the smaller fruit was worth picking. This year they have not been so bad, but then we have had little sunshine in Scotland. The fruit protected by the leaves ripened very well, and with no scalding. I had no experience of the variety John Ruskin until the previous year. I came to the conclusion, rightly or wrongly, it must be the variety. In your correspondent's case it is Royal Sovereign. I must be wrong. I have had thirty years' experience, but never saw the same thing before. What do others say?—P. S., *Galashiels*.

Open Grown Bush Peaches.

STIMULATED by the success attained by the late Mr. Blackmore, of Teddington, who grew fine crops and grand fruit on his American Peaches, we planted out a number, and left them to take their chance. They are now four years old, and for the first time carry a fair crop of fruit, and give promise of doing so for years. Mr. Blackmore found they did not fruit freely until over 6 feet high, probably because below that level the spring frosts had a greater effect on them. The trees require little pruning, and the fruits naturally benefit from a top-dressing and a good watering, as they swell off. Even without special care the Teddington Peaches made as fine examples as the same varieties on walls, and we have seen thousands gathered at once, and when graded they brought good prices, because so well coloured. The varieties are Waterloo and Alexander, while Hales' Early is twenty days later.

We think any light soil that contains lime would grow them well, and the stronger the trees are the better. Naturally they do not require so much attention as wall trees, and are very free from aphides and red spider. The fruits carry a fine deep colour, and ripen a week or ten days later than the same varieties on walls. This is a late season. We have eaten Alexander ripe on open walls July 15th (now July 30th), when we gathered our first from walls. Maidstone had a grand half-inch of rain on the 27th.—GEORGE BUNYARD & Co.

"A Gallant Fight."

I WAS much interested in reading "Spectator's" account of the closeness of the contest for the Tea challenge trophy at the Crystal Palace, and heartily congratulate Mr. Burnside upon it. He is a very good exhibitor of Tea Roses, which I should be inclined to put as quite "half the battle," as well as a good grower; and in my opinion, with an experience of twenty years, such an exhibitor *nascitur non fit*. I think I can remember the time when he was a good exhibitor, but not so good a grower; now that he is both, I reckon that Essex will at all events always have a good "look in" for the Tea trophy. As to his few hundred plants against Mr. Hill Gray's many thousands, I am of opinion that the value of the "big battalions" beyond a certain limit has been much overrated. On that I may have something to say before long.

I also think that too much stress is often laid on the value of shelter (Mr. Hill Gray's terraces), and the harm of exposure (Mr. Burnside on a high cliff by the sea). For first early blooms, often the grandest, say toward the end of May, commend me to sheltered spots and south aspects; but for the Crystal Palace show in early July, let me have the openest spot that can be found, especially on the top of a hill. For instance, I think it will be generally allowed that if he had not had to put his best Tea blooms into his seventy-two, it would have been difficult for anyone, amateur or professional, to beat the late Mr. B. R. Cant (whose loss is a personal one to myself) in twenty-four Teas at the Crystal Palace during the last twenty years. And his ground is at the top of a hill, exposed to all the winds of heaven; and, moreover, he and most other professionals (I think Mr. Prince is an exception) do not stake their standards, as I should think all amateurs do.

A thoroughly exposed situation means healthy conditions for the

wood and the leaves, and more genuine maturation; and I think in such a position the plants are exposed to less fluctuations of temperature. Moreover, it is plain that they will be less subject to "blight" of animal or vegetable nature, which originates in germs borne by the wind. Someone, without thought, may retort, "Surely those plants which are most exposed to the wind are thereby more liable to attack from the germs brought by the wind." Not so. Take the analogy of a stream. The current brings down in flood time all manner of debris and rubbish, sand and silt, and so on. But where does it deposit them? Not in the open current—the current itself keeps that clear; but in the corners and eddies, and behind bushes and reeds and stones, where there is less current.

Just so with the wind. The same wind which brings the germs carries them just as cleanly away where it has a free draught—as in drifting snow, the exposed places will be clear; but drops them thickly in all sheltered places, where they remain, and work their wicked will. I think most people will find that just now it is their Roses in sheltered positions which look worst of all.—W. R. RAILLEM.

Our Journal.

OUR Journal has this week given us much pleasant reading, and a great surprise. The highly interesting and complete report of the proceedings connected with the celebration of the bicentenary of the Sweet Pea should fully satisfy the most ardent lover of that popular flower, and also increase the number of enthusiastic cultivators. In a neat paragraph, prominently placed, we find the surprise in the form of an announcement, that 2d. will in the future be the price of our old friend. Though old and trusted the *Journal of Horticulture* evidently advances with the times. Long may its career of prosperity and usefulness be maintained.—AN OLD READER.

Apple Early Strawberry.

I PROCURED some time ago an Apple called "Early Strawberry," which I cannot find in Dr. Hogg's "Fruit Manual." Can some reader give me any information respecting it? It has not fruited with me yet, though it has bloomed. My Apples are more specked this year than last. In your note on page 415 of November 9th, 1899, you thought that the speck was the bitter rot, but it is sweet, and seems to be identical with the sweet rot that is troubling the Canadian fruit growers. I must try the spraying mixture you recommend; I was not up here this year to use it in time. I tried sulphate of iron in the soil with no benefit, but there may be an improvement owing to its use next year. We have had a splendid crop of Apricots this year; they are all over now. Plums are a fair crop, while Apples and Peaches are poor, but Pears are a good crop. Our rains are poor and late.—ANGUS CAMPBELL, *Mussorie, India*.

Cottagers' Sweet Peas.

ONE pleasing result of the boom in Sweet Peas is that a row or clumps of these flowers may be found in almost every good cottage garden and frequently on allotments. Workers seem to derive more of pleasure than was formerly the case in not only growing flowers, but also in having a bunch occasionally to carry home. I am not sure whether the Sweet Pea is not far more appreciated by the poor, whose flowers are few, than by the rich, whose flowers are plentiful. It is so hardy, so easily grown, and when in bloom few plants give more beautiful flowers. Cottager growers like to have collections of some six or twelve varieties, and they make by far the best show, and are much more enduring when sown in clumps of from nine to twelve seeds thinly in separate colours. In many of our rural shows classes for bunches are now provided, and seem to be largely competed in. The exhibitors have much to learn in regard to showing and setting up, and if the collections that have distinct colours in the bunches, and are neatly set up in small vases or glasses, be placed prominently in the awards, the lesson is not lost. I met with a schedule the other day in which six Sweet Peas were asked for. It was well that the poor competitors had fairly good sense, or they might have put up a bunch of six flowers only. But whilst interpretations differed materially, some at least did put up charming bunches of six in diverse and distinct varieties, and thus taught the committee a lesson in scheduling classes. Few flowers are more difficult to judge than are Sweet Peas when set up as required and the flowers are of average merit. They are so much alike. It is then only possible to make satisfactory awards when one set of flowers is fresher or seems to have finer form than another.—A. D.



Two Useful Crotons.—The value of Crotons for all purposes of decoration has been referred to times without number in these pages, and the culture of the plants has received the attention of some of our ablest growers. I am therefore writing at this moment simply to pay a tribute to the beauty of Prince of Wales and Warreni, which when well grown are amongst the very best. Their elegant growth and stately habit render them peculiarly valuable for utilisation in groups of miscellaneous plants.—F. W.

Nepenthes at Chelsea.—The collection of Pitcher plants at the Royal Exotic Nursery, Chelsea, is recognised as one of the most complete that can be found, and it may safely be added that it is one of the most excellently grown. At the present time the plants are in splendid condition, and are building up some grand pitchers. Notwithstanding the fluctuations of temperature that have prevailed Mr. Tivey has succeeded in keeping the plants in proper progress, as their healthy leafage amply testifies. Amongst the newer hybrids *N. Balfouri* is conspicuous, but a cross between *N. mixta* and *N. Dicksoniana* has brought forth one of the handsomest pitchers that has ever been seen. The prevailing colour is green and crimson-brown, and the form is intermediate between the parents.—V. E. G.

Winter Greens.—The breaking up of the intense heat, which everything, animal and vegetable, seemed to suffer from, through the agency of thunderstorms, has been indeed welcome relief. The heavy rains had had a fine cleansing effect, and have done a world of good to many things. They have come in capital time to enable late winter greens to be got out, and in that respect will render inestimable service. Now areas of ground left bare because it was of no use to plant in the great heat have been filled up, and there will, almost certainly, be an abundance of Brassicas next winter. Turnips will now become plentiful also. Many breadths of winter greens got out during the June rains bid fair to be far too gross presently. I am disposed to think that the most useful winter supply will be that planted now.—D.

Sutton's Peerless Pea.—Two years since I gave to some of the Surbiton allotment holders small quantities of Peas for their sowing, derived from a trial of 3-foot varieties, suitable for allotment culture, grown on a plot on their group. One worker had about three-quarters of a pint of Sutton's Peerless. He did not, however, for some reason sow them the next season. He did sow them this year, making a couple of 25 feet rows. I saw them quite recently, and found a splendid crop; indeed I think a finer one of that or any similar variety would have been impossible. The allotment holder was so delighted with the Peas that he had one of the rows photographed. I have not seen the picture, but hope to do so shortly. However, the satisfaction to me was that in endeavouring to induce these workers to grow the best varieties, this man had done Peerless so well and produced such fine results.—A. D.

Stenactis speciosa.—For blooming in June and July this hardy perennial is indeed a useful and showy plant, and like some others in this section of garden plants it can be raised from seeds with very little trouble. In two years quite large bushes can be obtained from seeds, and if sown early under glass and forwarded by the same attention as is usually given to summer Asters some flower heads appear in the autumn of the same year. This course is only advisable when its flowers are in early request, and its season prolonged. Later sown plants would become strong when duly planted out by winter, and in the following summer quite a good show of bloom would be forthcoming. My seed came up somewhat thickly in the boxes, and instead of transplanting these singly they were picked out in small bunches of several. This may not be considered a good practice; single plants obtained by sowing thinly would, perhaps, be equal if not better, but the results justify the action. Once a stock is obtained it is easy to increase by division of the root crowns in winter or spring. The difference between *Erigeron speciosa* and *Stenactis speciosa* is so slight that both need not be included in any collection. For cutting purposes the *Stenactis* is well adapted because of the long stems and branching heads of flower, which much resemble the perennial Asters of the autumn.—W. S.

Arbour Day in Japan.—One of the Tokyo dailies suggests that May 10th, the anniversary of the marriage of the Japanese Crown Prince, be made Arbour Day. In America, and also in some countries of Europe, a day in spring is set apart as a holiday by the public schools for the planting of trees and the fostering of interest in the preservation of forests. Such a day is called Arbour Day. It is both a beautiful and useful custom, and could be adopted with immense advantage by Japan, the forests of which are year after year being steadily denuded. There are over 4,168,000 scholars in Japan, so that if each of these young people will plant a young tree once every year, there is small fear that this country will ever feel the scarcity of timber.

Fruit Canning Industry.—The profits of canning fruit in the United States would appear to be most alluring. We learn that the imports of Californian fruit into the United Kingdom for the first quarter of 1900 were double those for the corresponding period of 1899. There would seem to be a broadening market for Californian canned fruits abroad, and this, coupled with the increasing demands for fruits to be shipped in the fresh state, will, says an American exchange, operate to keep prices up. This state of affairs has led to an enormous expansion of canning factories, which may end in a "slump." India offers many openings for the fruit canning industry, but enterprise is wanting.—("Indian Gardening.")

Asphodel and Sundew.—A very pretty yellow flower, with its star-like blossoms tipped with orange, is the Lancashire or Bog Asphodel. I should not call it very common; still it grows in marshy, boggy places in many parts of the South of England, as well as north. Some sixty miles from London I recently picked a bunch of Asphodels, and they have only just begun to wither. They grow among Heather and Cotton Grass, and the round-leaved Sundew. The Cotton Grass is a favourite plant with many people. Some ingenious person once gathered a sufficient quantity of it to make a pocket handkerchief for the Queen. The round-leaved Sundew used to bear the evil name of red rot among farmers, who considered that it gradually destroyed all sheep which ate it. The purple flowered Butterwort, which is to be seen in some North of England and Scotch marshes, and is a very common Norwegian flower, bore, says a contemporary, a similar reputation. No doubt sheep which fed largely in the marshes, where such flowers grew, did deteriorate, but that should have been attributed by the farmers to the badness generally of the fodder.

Flowers and Foliage at Kew.—The visitor who wishes to see some of the beauties of Kew Gardens should bear to the right past the Museum, in which are stored specimens of woods from all parts of the world, and then past Kew Palace and grounds. In the middle of July, even to the end of the month, the tall, handsome Tiger Lilies are in their blossoming prime. The Foxgloves, which are still resplendent in many parts of the country in a wild state, have gone off in Kew before the end of the month, and in the Wilderness, to which we are going, one of the most striking flowers scattered about under the trees is the tall yellow Mullein. Down by the lake, which is being cleared of its weeds, another fine wild English flower has been planted with success, the yellow Loosestrife, which may be seen in July and August by many a streamside. Why, says the present writer in the "Daily Express," have not the authorities established the splendid yellow and brown spotted *Mimulus* at the edge of the lake at Kew? It would be a decided acquisition there, and where it once effects a footing it stays. We bear away, however, from the lake, and make for the plantations of Poplars and Oaks. Between the river and the Azalea gardens there are splendid trees, and the authorities have very sensibly given many of them their English as well as their scientific names. Do not keep to the gravel path, but wander on the turf among the great trees. There you will find fine specimens of Locust trees, whose true home is North America, but flourishing greatly here in the Thames Valley; tall Beeches with grey boles, such as grow in the grand avenue of Savernake Forest; Sweet Chestnuts strewing the ground with their soft, long "catkins," and Oaks of divers kinds. There are our own two varieties of native Oak—the common Oak and the Durmast—out of which some believe the roof of the Great Hall at Westminster to have been made. Intermingled with these are Scarlet Oaks from America, whose large leaves are all aflame in the late autumn; sombre Turkey Oaks, too, and various others from Portugal and South Europe. Among them, in the fairest and shadiest parts of the Wilderness, near the river, there are a few noble Cedars of Lebanon.

The Carnation.

JUST 300 years ago a little book was published, called "The Country Housewife's Garden." The writer, in addition to being a first-class gardener, was a gentleman of culture, and this is part of what he writes about Carnations:—"July flowres commonly called Gilly flowres or Cloue-Jully-flowres (I call them so because they flowre in July) they have the name of Cloues of their sent. I may well call them the King of Flowres (except the Rose), and the best sort of them are called Queene-July-flowres . . . some of them as bigge as Roses. . . . Their use is much in ornament, and comforting the spirites, by the sence of smelling."

The estimate of this old writer is exactly the same as that generally accepted at the present day. The Rose is still the Queen of Flowers, but next to it we place the Carnation. Nor do we seem to have gained much in the size of the flower, and certainly nothing in fragrance. The Carnation has at least one advantage over the Rose, inasmuch as while it is cultivated in its thousands in the gardens of the wealthy, it can be, and in very many instances is, grown to perfection in the little flower plot of the cottager. Carnations are absolutely hardy, and though a vast extent of glass is at the present day devoted to their culture its use is only a necessary evil, and in the case of plants grown to flower out of doors it is not required at all.

It is not my intention at this time to write exhaustively of Carnations, but as the period for propagating by layers has fully arrived I shall confine these remarks to layering, and planting out the layers after they have become plants. The "grass," as the young growths round the collar of the plants are technically called, is this year somewhat later than usual. This has arisen in great part on account of the number of flower stems that this season have been produced, this a result most probably of the abnormally fine season last year. In some instances I have had a difficulty in getting sufficient stock of some varieties, and in such cases I shall most likely fall back on cuttings to be rooted in cold frames in the same manner as *Calceolarias*.

The selection of good layers is an important point. They should be strong, vigorous, healthy shoots, as from these, almost without exception, free-flowering, robust plants are alone produced. The layers must not be too close together. Abundance of room is a golden rule in gardening, and in Carnation culture it applies with much force. In making the layer a slit is made with a sharp knife, beginning the cut in an upward sloping direction under a leaf, and continuing upwards for a quarter of an inch, and never more than half an inch. It is commonly recommended that a few leaves should be removed before cutting the shoot, and the slit to be made sufficiently lengthy to produce a tongue an inch in length. The carrying out of the first of these recommendations is unnecessary; the other is harmful, as a short tongue emits roots quicker, and a better plant is the result.

The depth to which the tongue ought to be buried is also of some importance. I never allow them to be buried further than is necessary to bury the slit. Deep layering like deep planting is hurtful. A little sandy soil, or even a little pure sand, mixed with the natural soil is generally beneficial. Damp, cloudy weather should be chosen as most suitable for layering. If done in sunny weather slight watering will be of advantage for the first few days. After roots have been produced I look over the collection, and cut the connection betwixt the parent plant and the layer, the cut being close to the latter. In a short time roots are also emitted from the cut part, and a good ball of roots results.

One of the secrets of successful Carnation culture is early planting. If the plants are well established before winter they go naturally to rest, and grow away with increased vigour with returning warmth in spring. I do not mean to say that late planting, or even planting in spring, is necessarily bad, but I am perfectly sure there is always a risk attending late and spring planting, and in any case early autumn planting, other things being equal, yield superior results. Carnations do not mind intense cold, but they resent damp. A dry position should, therefore, be chosen for the beds, and if there is any risk of dampness then I advise raising the beds above the general level. In planting a little light soil may be placed round the roots to the advantage of the plants.

On no account bury the stems to a greater depth than they were

sunk as layers. Eschew a rich soil, any manure that the plants require, and they do not object to manure being applied to the surface. With plants set out early and having good balls of soil and roots, there is no danger of frosts throwing them out of the ground, as is the case with badly rooted late planted specimens. In the spring when the ground has become sufficiently dry, it is a good plan to slightly firm the soil of the beds, thereafter hoeing the ground and applying some manurial agent. Soot is cheap and very good for this purpose. Of late years Carnation and Picotee flowers have been accorded a large share of popularity for the purposes of buttonhole bouquets for gentlemen and shoulder sprays for ladies (fig. 30). For the former purpose I find that one bloom of a favoured colour arranged with natural foliage meets with most general approbation. For ladies, however, two or even three flowers are used, and in addition to Carnation foliage we usually add some sprays of *Asparagus*.—N. B.

Carnations at Chelsea.

DURING a long series of years one of the July attractions at the Royal Exotic Nursery of Messrs. J. Veitch & Sons, Ltd., has been the collection of Carnations grown in the square at the Fulham Road end of the Long Walk. There the firm has year by year exemplified the value of Carnations and Picotees for culture in London gardens, and demonstrated the fact that some varieties are more suitable than others for this particular purpose. At the moment of writing the flowers are passing their best, but sufficient remain to show the excellence of many of the varieties that are grown, as well from the question of quality of flowers as from the point of view of strength or otherwise of constitution, as judged by the production of "grass" for layering—an all-important point in Carnation and Picotee culture.

The whole of the oblong beds are completely stocked with Carnations, representing bizarres, flakes, fancies, and self coloured, with yellow and white ground Picotees. The visitor will observe that in the case of very popular standard varieties a bed is wholly devoted to them, the less favoured sorts having a certain number of rows, while the novelties are allowed one row apiece in the beds, and duplicate plants are grown in pots in an adjacent greenhouse. One has scarcely been five minutes amongst the plants ere one realises the completeness and the up-to-dateness of the collection, for practically every novelty of any merit is in evidence; some are distinct from better known forms, but others might well be classed under the heading of "too much alike." Here, as in every place where Carnations and Picotees are made a specialty, the great work that has been done by Mr. Martin R. Smith of Hayes is conspicuous in the names of the many that have emanated from this fertile source. There are, of course, novelties from other raisers, but these are few in comparison with those from Hayes.

The point that will strike the practical cultivator with the greatest force is the difference in the progress made by the several varieties. Here will be found one that is puny in growth, and is to all intents and purposes destitute of those growths so essential to propagation; while yonder may be seen a plant that is at once robust and attractive, and which is producing splendid layers. These are the type of plants that the town cultivator should strive to secure, as they go a long way towards insuring success; for those of weak constitution little can be said, save that under the most favourable conditions of climate and of soil many of them produce flowers of exquisite beauty and of perfect quality. But it is almost useless growing these if they only produce one or two good flowers to each half dozen or more of plants. It seems, by the way, to be somewhat of a characteristic of certain of the newer sorts that they only produce first-class flowers when one is allowed to develop; this is a regrettable trait, as the Carnation should be the producer of several flowers from every properly grown plant. Then, too, in some of the more modern types we are losing that delicious fragrance for which the Carnation has ever been renowned. Let us hope our novelty producers will keep in mind that to the general cultivator fragrance is a necessity, though the florist is apparently content with perfection of form and colour.

Prominent amongst the older sorts may be noted the pure white Mrs. Frank Walls, the purple Cara Roma, the brilliant scarlets Joe Willet, Cantab and Hayes Scarlet, and the deep crimson Mephisto and Uncle Tom; while rather more recent, but from their excellence already comparatively well known, are the darkscarlet Amy Robsart,

the glowing scarlet Isinglass, with its fine petals; the rich purple Bendigo, the rose pink Asphodel, and the rose scarlet Boadicea; all of these are worthy of inclusion in every collection, though they are not necessarily the producers of flowers that come up to the exhibition standard. Omission had almost been made of George Maguay, which is in the front rank of pure white border Carnations, as it produces well.

are given briefly, commencing with Banner, bright scarlet; Desmon-lins, white ground heavily marked with maroon; Enchantress, deep rose pink; Goldylocks, yellow splashed with scarlet; Queen Bess, apricot; Rizzio, bright yellow; Guinevere, buff suffused with pink; Falcon, pale yellow; Benbow, buff; Aglaia, pale yellow ground Fancy; Agnes Sorrel, maroon; with Goldfinch and Blondin, clear



Fig. 30.—CARNATIONS AND PICOTEES.

shaped flowers in astonishing abundance with "grass" in generous proportion; George Maguay is a variety that will withstand the test of years.

Turning now to the newer Carnations, we find a very long list that includes several of sterling merit. It is not possible either to name the whole of them, or to furnish complete descriptions, so they

are given briefly, commencing with Banner, bright scarlet; Desmon-lins, white ground heavily marked with maroon; Enchantress, deep rose pink; Goldylocks, yellow splashed with scarlet; Queen Bess, apricot; Rizzio, bright yellow; Guinevere, buff suffused with pink; Falcon, pale yellow; Benbow, buff; Aglaia, pale yellow ground Fancy; Agnes Sorrel, maroon; with Goldfinch and Blondin, clear yellows. Of yellow ground Picotees introduced during 1899 and 1900, the best were Onda, claret edge; Professor, scarlet edge; Duke of Alva, purple edge; Borderer, bright red edge, and Alberta, glowing scarlet edge. These are all of fine quality, and will probably find their way into many collections when the fast approaching time for distributing rooted layers has arrived.—F. W.



The Three N.R.S. Shows.

THE Rose season has been this year in most parts of the country a very trying and disappointing one. In the first place, the frosts and cold winds at the end of April and in the middle of May caused a large proportion of the shoots to come blind. In fact, at the Temple Show, on May 23rd, I came across only one Rose grower who did not take a more or less desponding view of his prospects for the coming season. A little later on, when the blind shoots had been removed, a sufficient number remained—at all events from an exhibitor's point of view—with satisfactory young buds at the ends of them. These young buds day by day improved, and as the plants continued healthy and strong, delightful dreams of magnificent flowers in time for "the National," as the leading exhibition of the N.R.S. is familiarly styled, were freely indulged in. But alas! those glorious visions were never to be realised, for cold weather set in, and kept the buds almost at a standstill for at least a fortnight. This cold spell was immediately followed by such a burst of tropical heat as is seldom experienced in this country, with the result that the flower buds were rushed prematurely into bloom, and consequently came in most cases undersized and of poor substance. In spoiling the season, the June cold had, however, far more to answer for than the July heat. This preface respecting the weather conditions under which our Roses were grown this year is necessary, in order that the following notes on the National Rose Society's three exhibitions may be clearly understood.

The Southern Show.

We will first consider the Salisbury Show. Although the fixture was an unusually late one, June 27th, the number of blooms of exhibition Roses was smaller than at any previous southern show—viz., 1160 blooms. That the backward season was almost entirely accountable for this small display is shown by the fact that no exhibitor came from any town farther north than Cambridge. Added to this, the exhibitions held on the same day at Richmond and Southampton still further reduced the number of Roses staged. With very few exceptions, however, our exhibitors remained loyal to the N.R.S., even those who were showing elsewhere in most cases came down themselves with Roses to Salisbury. The spot on which the show was held was one of the most charming that could have been selected, in a meadow at the back of the Bishop's Palace, and under the very shadow as it were of Salisbury's splendid cathedral. The redeeming feature of the show as regards exhibits was the magnificent stands of "garden" Roses at one end of the new and spacious tent provided by the local committee. Although the weather was warm and bright most of the flowers retained their freshness throughout the day.

The Metropolitan Show.

The society's metropolitan exhibition took place, as usual, at the Crystal Palace, filling very nearly the whole of the north nave. It was a large show, the number of blooms of exhibition varieties exceeding the average number for the five previous Crystal Palace Rose shows by 540. It was also more extensive than either of the two preceding exhibitions. The actual number of exhibition blooms staged amounted to 6500. There were some fine stands, but taken as a whole the quality was not equal to what we expect to see at our national show. This, however, as has been before explained, was entirely due to the backward and untoward character of the season. Judging by the exhibits, the most favoured parts of the country this year appear to have been such counties in the West of England as Hereford, Somerset, Gloucester, and Worcester. To give some idea of the extent of the show, I may state that there were no fewer than ninety-nine exhibitors, who staged altogether 400 stands of flowers. Twenty-five English counties were represented, the most northerly of these being Nottinghamshire. Three exhibitors came from Ireland, but the season was too backward to allow of any Scottish rosarians putting in an appearance. I do not ever remember a Crystal Palace Rose Show in which everything worked quite as smoothly. For this great credit is due not only to Mr. Casleton, the garden superintendent of the Crystal Palace, but also to the society's stewards who took charge of the various sections of the exhibition. When we consider the number of exhibitors, the extent of the show, and that the whole of the judging was completed by the sixty-six judges engaged in less than an hour, this, I think, may be regarded as highly creditable to all concerned—stewards, exhibitors, and judges alike.

The Northern Show.

The society's northern exhibition was held in the conservatory attached to the beautifully situated gardens of the Birmingham Botanical and Horticultural Society at Edgbaston. But for the great heat which prevailed both before and at the time of the exhibition, for the show was held on July 19th, one of the hottest days of the present summer, this would undoubtedly have been the best Rose show of the year. As it was the exhibition proved a fine and extensive one. The number of blooms of exhibition varieties staged amounted to 3730, or 300 in excess of the average number for the previous five northern shows, but 500 less than at the largest provincial show ever held by the society, which took place in the same gardens in 1890. The exhibit of "garden" Roses was a noteworthy feature of this show. A few years ago these so-called "garden" Roses were only to be met with at our early exhibitions, but now that so many charming varieties other than summer-flowering kinds have been introduced it appears they can be shown as late in the season and as well as the exhibition Roses.

At both provincial shows the arrangements made by the local committee were as complete and satisfactory as could possibly be wished, and few are, I think, aware upon how many small but important details being properly carried out the success of these provincial exhibitions of the society depend. Regarded from the point of view of the number of visitors present, all three exhibitions must be considered as having been unusually successful. Indeed, as regards comfort, some of the 23,000 visitors at the Crystal Palace this year on the Rose Show day could well have been spared, for owing to the want of sufficient police in the afternoon to regulate the circulation of the crowd, the flowers could only be inspected with difficulty. At the metropolitan exhibition one of the most encouraging features was the number of new recruits to be found among the large army of exhibitors, and considering the small experience of some of them, the general excellence of their exhibits was highly creditable.

Men of Mark.

The leading honours of the year were thus distributed. The amateur champion challenge trophy was for the ninth time in eleven years carried off by that invincible competitor Mr. E. B. Lindsell of Hitchin. The same exhibitor also again claimed the Jubilee challenge trophy. The nurserymen's challenge trophy was for the first time secured by that well-known Irish firm, Messrs. A. Dickson & Sons of Newtownards and Newbury; while the Jubilee challenge trophy was for the ninth time in fourteen years won by Messrs. Harkness & Sons of Bedale and Hitchin. The amateur Tea and Noisette trophy fell to Mr. A. Hill Gray of Bath, who has now won it four times.—E. M., *Berkhamsted*.

Some Hybrid Roses.

THE two classes of Roses known as Teas and H.P.'s are old and familiar friends to everyone, but in their production there have only been three or four of the many species of *Rosa* used. *R. indica*, *R. gallica*, *R. damascena*, with perhaps one or two others, are in the main the first parents of most of our beautiful garden Roses, while the other species, many of them equally beautiful, have been neglected until the past few years. But now there are many first-class Hybrid Roses which have been raised from *R. rugosa*, *R. multiflora*, and *R. Wichuriana*. One of the best of these is Mrs. Anthony Waterer (*R. rugosa* × *Général Jacqueminot*); it is one of the oldest of the *rugosa* hybrids, and having nearly double flowers of a deep crimson colour. It has the habit of *R. rugosa*, and is very free flowering. *Souvenir de Christophe Cochet* is a cross between *R. rugosa* and some H.P., but in habit it more nearly approaches the first mentioned parent. It has nearly double flowers of a bright red colour, over 3 inches across.

R. multiflora × *Général Jacqueminot* (the Dawson Rose) is a rambling Rose with small semi-double pink flowers, which are produced in great abundance on even small plants, and when planted in a mass makes one of the most effective sights in a garden during June. *R. Iwara* (*multiflora* × *rugosa*) has the small single white flowers of the first named parent on the habit of the second; but the flowers open badly, and are not very effective.

R. Wichuriana × *rugosa* is a good example of a true cross, being exactly midway between the two parents. In addition it is a beautiful Rose having single flowers of a lovely shade of pink; the foliage has the varnished look of the first parent, with the roughened appearance of the second. The growth is free and rambling, and covered with large reddish spines. *Pink Roamer* is a cross of American origin, of which *R. Wichuriana* is one of the parents, while the other is unknown. It has single flowers of a beautiful colour, more nearly purplish-pink or magenta than true pink, making the name a rather misleading one. *Universal Favourite*, *Manda's Triumph*, and *South Orange Perfection* are all hybrids, of which *R. Wichuriana* is one of the parents. The colours are various shades of pink or blush-white, with small semi-double flowers and free rambling habit.

The hybrids of *R. Wichuriana* are particularly adapted for using either as prostrate or as climbing Roses, a good plan being to arrange three stakes to form a pyramid 6 or 8 feet high, and training the growths loosely on it. The stakes will be hidden the first season, and the flowers displayed to the best advantage. None of these hybrids requires pruning in the ordinary sense of the word as applied to Teas and H.P.'s, a thinning-out of old and weakly branches being all that is

flowers exhibited by Mr. Keppel H. Gifford, and he promptly informed me that Mr. Gifford grew his Roses in a garden not exceeding 120 feet by 30 feet, and that he possessed less than 500 plants. The flowers were of such conspicuous excellence in size and substance, but more particularly in colour, that I at once decided as to the desirability of seeing that Rose garden for myself. Such a visit was not difficult of arrangement, as rosarians fraternise at the Crystal



Fig. 31.—A SUBJECT OF THE BICENTENARY.

necessary, on no account shortening any back except to aid the production of strong and vigorous growth.—C.

An Amateur's Rose Garden

It is a matter of impossibility for anyone who does not frequent the various Rose shows to properly grasp the immense interest that is taken in the queen of flowers. I had an admirable illustration of the truth of this statement on the occasion of the Sutton Show. In chatting with the secretary I remarked upon the excellence of the

Palace, and I quickly landed my man. We arranged to steer straight from the palace of glass to Sutton after six o'clock (the time for clearing), as Mr. Gifford was exhibiting two boxes, for which he annexed a first and a second prize respectively.

From Sutton Station a walk of rather under a mile brought us to the district of Benhilton, in which is situated "Elensor," Mr. Gifford's home. We were soon in the garden, for which nothing but praise can be found. It is divided into two portions, the one nearer the house having a grass plot with borders on either hand, while the

remainder is given over to the collection of Roses. One can see at a glance that here we have an enthusiastic rosarian pure and simple, and one could quickly gather that the gardener who is called in occasionally must on no account trench upon the Rose department, but must direct the whole of his attention to the grass and the borders. Your real rosarian is a man who has a superabundance of energy which must be worked off on his beloved plants; to grow them wholly on his own initiative is his ambition, and when his efforts are rewarded by prizes at the local show and subsequently at the exhibition of the National Rose Society, he is a happy man indeed, and only thirsts for other fields to conquer.

In the rosery we find a central path flanked on each side by four beds measuring 15 feet by 9 feet, and having a 3 feet alley between each pair. There are thus eight beds of uniform size; while in addition there is a larger bed running crosswise of the garden, and which divides the two sections. The smaller beds provide accommodation for about fifty plants each, and the larger one has probably from seventy-five to ninety Roses in it. The first desideratum has obviously been to insure every individual having an abundance of space for the free passage of light and air, which are essentials to successful results. The soil is a peculiarly unkind looking clayey loam, but that it is amenable to good cultivation is proved by the condition of its surface, and again by the excellence of growth that is produced. The secret of its present condition lies in the persistent forking over of the surface; every time Mr. Gifford treads upon the bed for purposes of gathering he immediately afterwards loosens the firmed spot with a fork. Even with this constantly recurring, it is impossible to turn over 6 inches other than in the form of a compact mass, which shows the adhesive character of the medium.

The general system of culture adopted is simple but thorough. Briefly stated it consists of going carefully over the plants in August, and removing any shoots that it can be seen will be superfluous, thus admitting light and air for the maturation of those remaining; and later in the season digging the whole over roughly so that it may lie fallow, so to speak, throughout the winter. In February the ground is top-dressed with some thoroughly good material, and in March the whole surface is dressed with lime, and the surface is again forked over. The third and last addition is made in May, and it takes the form of bonemeal, which Mr. Gifford finds peculiarly beneficial to his plants. The all-important operation of pruning is carried out from about the end of the first week in March to a similar time in April. Close pruning is adopted, and though the time of commencement seems rather early it is clearly suited to the progress that is made in the soil of Edensor. Each variety has its requirements intelligently studied both in respect of time and closeness of pruning—indeed it is only by such means that the best results can be looked for by Rose growers.

Generally speaking all the varieties thrive well, but Mrs. John Laing is probably the finest of all. It makes splendidly stocky growth, which produces flowers of superb colour and fine substance. Captain Hayward, too, is more at home than is sometimes the case, and produces handsomely formed blooms of great size and the richest colour. Others could easily be enumerated, but it is unnecessary. The whole of the garden reflects the utmost credit on the skill and perseverance of Mr. Gifford, and it may be in justice added on Mrs. Gifford also, for she is the officer in charge when the presiding genius is away. We may congratulate Mr. Gifford on his past successes, and express the hope that the future record will be such as will maintain the reputation he has made for himself amongst those growers who are eligible to compete in classes restricted to "growers of less than 500 plants."—AN AMATEUR ROSARIAN.

William Allan Richardson.

In the neighbourhood of Woking there are many fine specimens of this favoured climbing variety, and this season the blooms have been better coloured than for several years past. It is a Rose the blooms of which like shade; the sunless month of June has therefore suited it. When planting this variety it would be well to choose the least sunny aspect, then we need not wait for a suitable year to see it at its best. The blanched blooms of W. A. Richardson are not attractive, but when they put on a deep apricot tint few flowers are more admired; and as it grows so readily in almost any soil, no garden, however small, should be without this well-known Rose.—S.

Rubens.

NOT the least remarkable plant of a Rose we have noted this year is one of the old variety named. It is trained against the wall of a villa residence, and is climbing about the window with great freedom. The growth is never pruned; with the usual nailing it is allowed to grow at will. The flowers are notable not only for their number, but their fine development; and it would not be difficult to cut a dozen blooms, which would, in exhibitors' words, take some beating. When specimens like this are seen we pause, and wonder if we do not prune our Tea Roses too hard.—H.

Pictorial Practical Gardening.*

THIS modest manual, which costs but one shilling, is a marvel of logical arrangement and concentrated knowledge. It may be said that Mr. W. P. Wright, the author, has put forth an epitome of horticultural practice such as the ordinary English enthusiast, amateur or professional, seeks to compass outside the hothouse. Being as full of the required information as an egg is full of meat, particularisation would lead us very far afield. In fact, like the Institutes of Justinian, a paragraph, or a portion of a paragraph, might serve as the text for a long and interesting article. So compressed, indeed, is the knowledge that some experience is necessary to extend it into practical utility, and hence, so far from being useful merely to beginners, this work should be kept near at hand for reference by every gardener of ten years' standing.

On a thousand and one points we find the memory will play us false, and such a manual as this is the nostrum for correcting such inaccuracy. These works, too, contain a good shillingsworth of flattery for the veteran, even if they do not instruct *him*, for cannot he read herein how much he has learnt, and also how much he has forgotten? In short, all gardeners who do not confine their operations to the arcana of the forcing house and the conservatory will do wisely to purchase "Pictorial Practical Gardening." They will find the style pleasing and terse, and enjoy the assistance of 129 excellent technical illustrations in its 130 pages. Mr. Wright's reference in the opening paragraph to the popular idea of the old and crusty (or is it "crusty?") horticulturist, relates of course to an exaggeration. Few credit the craft with having a monopoly of the ferocity of criticism. Those who do, forget the reciprocal amiability (*sic*) of doctors and musicians, and overlook the meekness of the theologian in meeting the views of a dissentient brother, a spectacle which has long been the subject of wonder and admiration among the laity.

King's Weston, near Bristol.

IN an old-established garden such as this there are sure to be many points of interest even to the most casual observer. King's Weston is situated on an eminence overlooking the busy port of Avonmouth, where tons of merchandise are unshipped from American and other great steamers in order to avoid the passage up the treacherous and winding tidal river to the Bristol city docks. The situation of the house and gardens is unique in the extreme, broad expanses of sea, river, mountain, and valley meeting the eye in wonderful diversity. What the elevation is I did not learn, but it must be considerable, because it stands above and presents to the eye such a vast and lovely sea and landscape picture. King's Weston has been the home of the Miles family for generations past, the present owner being P. Napier Miles, Esq., J.P., one of a family famed for political, commercial, and artistic tastes, and who is himself gifted with great musical talent. The house is in the centre of an extensive and heavily timbered park, and the estate has its boundary in the river banks and docks. Great devastation was wrought in the seventies by a gale, which swept down hundreds of valuable timber and ornamental trees, an avenue of Elms of great antiquity being levelled almost to a tree.

In the grounds there is an echo walk—a broad gravelled expanse extending a quarter of a mile in a straight line, at the end of which is a stone building from which the voice repeats itself in the vicinity of the house when loudly spoken. There is a gentle rise of the ground to the "Echo," and tall trees skirt the sides and foreground; closely mown lawns and well designed flower beds, standard Roses and herbaceous borders, all playing their part in this interesting spot. Near the house are small walled-in flower gardens, which afford charming seclusion and variety of floral features. In one, a summer house was almost hidden beneath a fragrant bower of Honeysuckle, and much the finest plant of the winter flowering *Chimonanthus fragrans* I have ever seen is here covering a great depth of wall in its wild profusion. Banksian Roses and other shrubs, too, have space afforded them. What was once a vinery remains in sacred preservation, save the structure itself. This was taken down some years since and an ironwork frame fixed to carry the Vines. That they have occupied their present position for many years is demonstrated by the size of the rods, and their growth in this open air vinery is to the stranger a most interesting and striking feature. Another relic is a very old Ivy-covered stone cross above tiers of stone steps, which may have been a monument to some departed hero. This little garden is supposed—though history does not appear certain on the point—to have been a burying ground, and a settlement in the turf is a spot tradition holds sacred as one containing human remains in a stone or brick-built vault.

A short distance from this is another walled-in garden, in extent perhaps not more than a quarter of an acre. Here Figs occupy a large

* "Pictorial Practical Gardening," by W. P. Wright. Price 1s. Messrs. Cassells & Co., Belle Sauvage Yard, London, E.C.

share of walled space, and afford the most remarkable growth of these trees I have seen. Their age is beyond that which the modern gardener can furnish, and their health and productiveness cannot perhaps be equalled in this or any adjoining county. The variety is Brunswick. The growth extends outward from the wall to the extent of 2 feet or more, and the same above the coping; and from here the finest fruit is furnished in August and later. Trailing Banksian and other Roses, Magnolias, Clematis, Honeysuckles, and Mahonias furnish their respective spaces, and a miniature Lily-filled pond occupies the centre, having rockwork sides, in which alpine and other plants maintain a varied interest. This has lately been extended and partially rebuilt by Mr. Taylor, the gardener, and new plants introduced from various sources; from Lundy Island Mr. Miles introduced a very fine variety of *Silene*, bright in colour and strong in growth. A large pond adjoins this garden, which is filled with great masses of *Nymphaea alba*; the surrounding grass walks are skirted with a profusion of flowering plants and shrubs.

Instead of one large kitchen garden, there are two or three smaller ones, subdivided by walls, to provide for the culture of choice fruits. As in other places, there is this year an abundance, Peaches perhaps being the least satisfactory of the outdoor fruit. Apricots have done splendidly; and Plums, many of them young trees, are carrying full crops, as also are Cherries and Pears. Apples, Pears, and Plums in bush form fill their usual places near the main walks. Some of Messrs. Bunyard's stem-fruited standards were noted in an outside enclosure. Raspberries were fine, Superlative in particular; also Gooseberries and other fruits. Though an old garden, vegetables, especially Peas, showed no signs of waning fertility, everything sown and planted growing with that vigour which speaks volumes for the excellent up-keep, not only of the present, but past gardeners, who in the case of so old an establishment must have been many.

The fruit and plant houses are not of modern design, but have been built, no doubt, at different periods for the purposes required of them. There are narrow but lofty cases with movable front lights, originally intended for Peach growth. Vines are now the primary crop, and occupy the ridge which is span-roofed. Peaches and Tomatoes fill the lower spaces, both doing well. Early and Muscat Vines occupy lower lean-to houses, as also do Melons and Cucumbers. A lofty span structure accommodates Palms and other plants for house furnishing, and there are stoves, greenhouses, ferneries, and pits all filled with the useful and necessary all-the-year-round supply of plants and flowers.

Much more might be written of this interesting garden and estate did time permit, but as only mental notes and observations were allowed by the time at my disposal, the most striking features alone can be given. One, however, has been omitted. In the crevices of the steps leading to the main entrance of the mansion are growing many plants, mostly Campanulas, which are not only in keeping with the great age of the building and its surroundings, but with the garden itself, and so cherished are they that no interference with their progress is allowed. Nature only is the gardener in authority over this privileged spot, and though to modern ideas this phase and place for gardening is not idealistic, there is an æsthetic feature about it that must be revered and respected.—W. STRUGNELL.

The War and the Flower Trade.—It is said that the florists have suffered considerably through the war. A well-known London florist asserts that in July of last year he had twenty-seven balls on his books, but this year he had only booked one. The war represented a loss to him of about £7000.

Roses and Lilies.

It is a time of Roses—a time when all to whom flowers are dear cannot but rejoice at the glorious blooms given by the summer queen. It is not needful for us to devote ourselves entirely to the Rose to be able to have unstinted admiration for its exquisite flowers, whose variety of colour and form would call for the devotion of a lifetime to be conversant with all the charms of the genus, and the many forms to which her followers have given rise. It may be that we can

only stand afar off, unwilling to appear as if we claimed to be among the inner circle of her followers, yet we can enjoy her beauties in no grudging way. As one looks round the garden the eye is delighted with the marvelously beautiful flowers of Madame Alfred Carrière with which the trellis is adorned. We see on the gable the blooms of William Allan Richardson, whose buds and partially opened flowers are so exquisitely coloured. With it grows a good white Rose whose name I do not know. It is one of those which bloom for months at a stretch, and flowers of great beauty though not over-large, it is much admired. Higher up Crimson Rambler is crowded with buds which ere long will be clusters of fine colour. Reine Marie Henriette on the trellis is full of flower, and other double Roses, from the old York and Lancaster to the ancient white Rose of York, are full of flower, and very lovely despite the frequent rains which injure their beauty and soon destroy such flowers as the old Cabbage Rose, whose perfume is so delicious. The single Roses, too, are charming, whether one looks at the Rugosa Roses, with their large flowers; the blooms of the Penzance Briers, or other species and varieties sought after by some. All this may seem straying from one's allotted path, but it is not so, or the garden of hardy flowers is not a garden at all without the Rose.

The stately Lily is glorious now as well. None in bloom at present are so pleasing as the beautiful *Lilium Hansonii*, one of those flowers which might be more largely grown with advantage, so great is its hardiness and so satisfactory is it in general. It has not



FIG. 32.—LILIAM CONCOLOR.

with it the traditions which cluster round the Madonna Lily and make it so precious even apart from its beauty. Nor has it been so long in our gardens; for thirty-five years is not a long time for a plant to take before it becomes well known to the many who know little of the stores of garden beauty awaiting their commands. A native of Japan it was discovered by Maximowicz in 1860, but not introduced until 1865. It has been in flower for some time, and is very handsome with its tall stems with whorled leaves and its charming yellow flowers which are beautifully dotted with purple. It has segments of much substance, and is one of the ornaments of my garden at the time this is written. Dr. Wallace called it "by far the most striking and graceful of all the true Martagons." *L. concolor*, too, is of great charm, and might well receive more notice than is given it at present (fig. 32). Others there are of equal merit, but I must not now launch forth into a long descriptive list.—S. ARNOTT.

Royal Horticultural Society.

Drill Hall, July 31st.

THE Drill Hall on Tuesday last presented a far more attractive appearance than might have been expected considering that we are practically in the midst of the holiday season. Messrs. J. Veitch's Gooseberries were particularly conspicuous, as were one or two exhibits placed before the Floral Committee. Fruits and vegetables were not numerous. The Society again contributed the Orchid paintings by Miss Roberts.

Fruit Committee.

Present: Phillip Crowley, Esq. (in the chair); with the Rev. W. Wilks and Messrs. J. Cheal, W. Poupart, A. H. Pearson, A. F. Barron, G. Kelf, A. Dean, S. Mortimer, W. Bates, J. H. Veitch, G. Wythes, F. Q. Lane, J. Smith, E. Beckett, J. Willard, G. Bunyard, G. Shaw Blaker, H. S. Mers Rivers, and H. Esling.

Messrs. W. Ray & Co., Teynham, contributed a small exhibit of Cherry Noble, which is unexcelled amongst the late dark varieties. The fruit is exceptionally firm, and the variety is a prodigious cropper. Messrs. R. Veitch & Son, Exeter, exhibited fruiting branches of *Elæagnus multiflorus*; the specimens looked very attractive. Fruits of *Rubus leuco-dermis* were contributed by the Rev. W. Wilks, Shirley. Mr. R. Doe, gardener to the Earl of Derby, Knowsley, showed a dish of Peaches for name, and an immense Melon. Mr. Walters, gardener to Lord Gerard, Eastwell Park, Ashford, sent Melon Eastwell Park, an attractive variety of good average size. Mr. W. Roupell, Roupell Park, S.W., was represented by Apples Juneating, Red Astrachan, and Mr. Gladstone. Messrs. Cross & Son, Wisbech, showed fruits of Apple Early Victoria.

Mr. Owen Thomas, gardener to her Majesty the Queen, Windsor, staged half a dozen fruits of Melon Princess, a new variety, that has resulted from a cross between Shamrock and Sutton's Pink Flesh. The skin is yellow, and the fruit is of good size. Mr. Thomas sent also Tomato Waterloo. This is a particularly handsome scarlet-fruited variety, that is extremely free bearing. Mr. W. Walters arranged a miscellaneous collection of fruits, comprising Grapes Muscat of Alexandria, Foster's Seedling, Madresfield Court, Gros Maroc, and Black Hamburgh; Peaches Dymond and Bellegarde; Nectarines Goldoni, Pineapple, Lord Napier, and Stanwick Elruge; with twenty Melons, representing Blenheim Orange, Royal Jubilee, Sutton's Jubilee, Eastwell Park, Gunton Scarlet, Hero of Lockinge, Countess, Earl's Favourite, British Queen, and Frogmore Scarlet. Practically the whole of the fruits were admirably grown (silver Knightian medal).

The most conspicuous exhibit in the fruit section of the show was the collection of ripe Gooseberries contributed by Messrs. Jas. Veitch and Sons, Ltd, Chelsea. The 100 varieties were shown in shallow wooden trays, from which the specimens stood out admirably. Amongst the several excellent varieties we may select Langley Beauty, Langley Gage, Golden Gem, Whinham's Industry, Warrington, Leviathan, Catherine, Lord Audley, High Sheriff, Gunner, Lancashire Lad, Mitre, Lady Haughton, Leveller, Postman, Matchless, Keen's Seedling, Early Sulphur, Alma, London, Careless, Telegraph, Green Overall, Bright Venus, Pitmasdon Greengage, Yellowsmith, Warrington, Champagne, Hedgehog, Red Champagne, Ironmonger, Trumpeter, Miss Nightingale, Pet, Surprise, Green Laurel, Dan's Mistake, Golden Drop, Shiner, Eva, Rumbullion, Stockwell, Magistrate, Bobby, Antagonist, London City, Whitesmith, and Keepsake. The same firm sent the Logan Berry, The Mahdi (a cross between the Raspberry Belle de Fontenay and the Blackberry), with Strawberry The Khedive and Currants La Versailles, White Dutch, Black Grape, and Lee's Prolific (silver-gilt Knightian medal).

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Druery, H. B. May, R. Dean, G. Reuthe, J. Hudson, J. Jennings, J. F. McLeod, J. D. Pawle, G. Gordon, C. E. Shea, E. H. Jenkins, W. J. James, H. J. Jones, E. T. Cook, J. Fraser, and W. Howe.

A beautiful exhibit of Begonias was arranged by Messrs. T. S. Ware, Ltd., Feltham, comprising good collections of both double and single varieties. In the former section Mrs. S. Pope, Prince of Wales, Mrs. Dunbar Wood, Jubilee Queen, Maid of Kent, Picotee, Lord Roberts, Miss Emily Childs, and Eclipse were most striking; while the latter section comprised a great variety of colour, while the blooms were all that could be desired (silver Flora medal). Messrs. Barr & Sons, Covent Garden, arranged a display of hardy flowers and Nymphæas, which were staged in zinc trays, and included *N. Marliacea flammea*, *N. chromatella*, *N. Ellisiana*, in fine form; *N. odorata sulphurea grandiflora*, *N. Robinsoni*, *N. caroliniana perfecta*, and *N. Seignourhi*. The hardy flowers included *Echinops ritro gigantea*, *Lilium superbum*, Pentstemons, a good collection of Phloxes, and Sweet Peas (silver Banksian medal).

From Messrs. Wills & Segar, South Kensington, came a group of Alocasias, arranged in a bed of Adiantums, with an edging of Fittonias.

The Alocasias and Anthuriums were remarkably well grown, and considering the fact that they were produced in the London smoke they were wonderful examples. The chief varieties were *A. Sedeni*, *A. Watsoni*, *A. argyrea*, *A. Sanderiana*, *A. Thibautiana*, *A. Lowi grandis*, *A. Rodriguesiana*, and *A. mortfontainensis* (silver Flora medal). Mr. A. Allan, gardener to Lord Hillingdon, Uxbridge, contributed a fine display of Carnations of the border type, Montbretias, Sweet Peas, and *Magnolia grandiflora*. The Carnations were the chief feature, and comprised such varieties as Golspie, Ormonde, Zebra, Catherine Glover, Golden Eagle, Sindbad, Wigan, Doris, Vesta, Roland, and Jim Smyth (silver Banksian medal).

A choice collection of Pentstemons was staged by Messrs. Dobbie and Co., Rothesay, which consisted of all the most modern varieties. The most striking forms were Andre Lebon, Auguste Cain, Congo, Atlantis, Cavalier, and Jaonis Chatin. Messrs. R. Wallace & Co., Colchester, staged a small exhibit of choice hardy flowers, in which *Lilium auratum*, *L. a. Crimson Queen*, and *L. longiflorum* were conspicuous, as also were *Asclepias tuberosa*, Montbretias, *Eryngium flavum*, and a variety of Gaillardias. Messrs. Webb & Brand, Saffron Walden, staged a table of fine double Hollyhocks, all raised from seed, and comprising thirty-two varieties. The spikes shown were simply splendid, varying in all colours from pure white to yellow, pink rose, crimson to deep maroon. The individual flowers staged singly in boxes were very fine (silver Flora medal).

Messrs. W. Cutbush & Son, Highgate, staged a large collection of Ivies in baskets, so that each variety could be seen so far as its general effect was concerned. Such an exhibit would be most helpful to anyone selecting a collection for covering purposes. A few of the best were *Hedera Silver Queen*, *H. maderiensis foliis variegatis*, *H. palmata*, *H. digitata*, *H. chrysophylla*, *H. himalaica*, *H. denata*, and *H. Glyni* (silver Banksian medal). From Messrs. J. Hill & Son, Barrowfield Nurseries, Lower Elmouton, came a grand display of specimen Ferns, formed into a large group with the aid of smaller plants. The large specimens were *Nephrolepis cordifolia*, *N. exaltata*, *Asplenium nidus*, *Davallia Mooreana*, *Polypodium aureum*, *Alsophila excelsa*, *Dicksonia antarctica*, *Cyathea insignis*, and *Adiantum elegans*, while the decorative varieties and species assisted to make a most attractive group (silver-gilt Flora medal).

Messrs. W. Paul & Son, Waltham Cross, made a magnificent display of Phloxes, each variety being represented by a good basketful, so that its merits could be clearly seen, and also its general effect as a decorative flower. All the varieties were staged in grand condition. Some of the most distinct forms were *Lumineus*, *Japonais*, *Dervish*, *E na*, *Pont Biquet*, *Faust*, *La Mahdi*, the best blue variety to date; *Coquelicot*, *Fiancée*, the best white in commerce; *Hecla*, *Branger*, and *Siècle* (silver Flora medal). Mr. W. S. Barrell, gardener to W. S. Ellis, Esq., Dorking, staged an interesting group of the little grown *Exacum mucranthum* in splendid form; they were growing in 4-inch pots, and each plant was covered with its bright blue flowers and shining green foliage (silver Banksian medal).

A pretty exhibit of Campanulas was staged by Mr. H. B. May, Upper Edmonton, the chief of which were some grand plants of *C. isophylla Mayi*, which were one mass of flowers; also the variegated *C. Balcaniana*, *C. Barreieri*, *C. isophylla alba*, *C. isophylla gloriosa* (a fine decorative plant), *C. i. superba*, *C. i. pallida*, *C. fragilis*, and *C. fragilis var.*, a most interesting and valuable exhibit (silver-gilt Banksian medal). Messrs. Kelway & Son, Langport, occupied a table running the length of the hall with a well grown collection of Gladioli. The spikes were grand, and the colours bright and distinct; notable forms were *W. Watson*, *Carlton*, *Peter Drummond*, *Vivid*, *Zoe*, *J. G. Clarke*, *Iago*, *Plunket*, *Lord Powis*, *Kitchener*, *Prince Henry*, *W. Falconer*, *Milla*, and *Civis* (silver-gilt Banksian medal).

Messrs. Jones & Sons, Shrewsbury, arranged a table of pretty Sweet Peas with suitable foliage, which gave them a pleasing effect. The varieties that were well staged were Mrs. Eckford, Prince of Wales, Countess of Powis, Mrs. Dugdale, Lady Mary Currie, Aurora, Lady G. Hamilton, Lovely, and Salopian (silver Flora medal). A capital table of hybrid Streptocarpuses were staged by Messrs. J. Laing & Sons, Forest Hill. The flowers were large and represented a variety of colours. Mr. Amos Perry, Winchmore Hill, presented a grand exhibit of hardy flowers, beautifully displayed. Some of the best were *Asclepias tuberosa*, *Platycodon grandiflorum*, *Statice incana*, Phloxes Mrs. Jenkins, Etna, Franklin, and Pantheon, Gaillardias in variety, *Echinacea purpurea*, and *Calochorti* in variety (silver Banksian medal).

Messrs. J. Veitch & Sons, Ltd., staged six baskets of hardy flowering shrubs. The baskets were large, so that a good idea could be obtained of each plant. *Eucryphia pinnatifolia*, *Æsculus macrostachya*, *Magnolia grandiflora* Exmouth variety, *Hydrangea quercifolia*, *Clethra canescens*, and *L. gustrum japonicum elegans* were shown. Messrs. A. W. Young and Co., The Nurseries, Stevenage, exhibited a collection of Cacti and a table of hardy flowers (bronze Banksian medal). Mr. W. Allan, gardener to Lord Suffield, Gunton Park, staged a few vases of a yellow Carnation, cut from the open border, named Major Harbord, a good colour, with a non-bursting calyx. Mr. Jas. Douglas, Elen-side, Great Bookham, staged a collection of border Carnations, which included good bunches of The Naiad, The Baron, Nox, Daniel Defoe, Monarch, Tenela, and Cockatrice.

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, de Barri Crawshay, H. M. Pollett, J. T. Gabriel, F. J. Thorne, W. H. Young, H. A. Tracy, H. J. Chapman, E. Hill, T. Rochford, T. W. Bond, W. Cobb, C. Winn, J. Colman, and J. G. Fowler.

Messrs. T. Cripps & Son, Tunbridge Wells, sent about a score of plants of *Disa grandiflora*, each carrying flowers of great size and excellent colour. Messrs. B. S. Williams & Son, Upper Holloway, arranged a small group of Orchids comprising *Lælio-Cattleya* Henry Greenwood, *Cattleya guttata* Leopoldi, *C. gigas imperialis*, *Platyclinis filiformis*, and *Cypripediums macropterum*, 10 superb ones, *Harrisianum superbum*, and *selligerum majus*. There were several contributors of one or two plants of Orchids, and amongst them were Mr. J. T. Gabriel, Streatham, who sent *Phaius bicolor*; Messrs. J. Veitch & Sons, who sent *Lælio-Cattleya Remula*; Mr. A. H. Smee, who sent *Bulbophyllum Sanderianum*; and Mr. H. T. Pitt, who sent *Lælio-Cattleya broomfieldiensi* Rosslynnum, *Cattleya Gaskelliana Lemoineana*, and *C. Hardyana* Rosslyn variety.

Mr. W. H. Young, gardener to Sir Frederic Wigan, Bart., Clare Lawn, East Sheen, sent a small collection of Orchids arranged in the form of an attractive group. Though there was not a great number of plants those shown were of exceptionally good quality, especially *Cattleya Warscewiczii*, Whitei, F. W. Wigan, *Hardyana*, *atalanta*, and one or two *Lælio-Cattleyas* (silver-gilt Flora medal).

Certificates and Awards of Merit.

Begonia S. T. Wright (T. S. Ware).—A splendid double variety of rich apricot shade (award of merit).

Begonia Mrs. Andrew Tweedie (T. S. Ware).—A handsome double flower, with pure white petals touched with cream at the base (award of merit).

Cattleya F. W. Wigan (W. H. Young).—This splendid hybrid resulted from a cross between *C. Schilleriana* and *C. aureum*. The sepals are rose with deeper venations, the petals also being rose but of a brighter shade. The broad flat lip with its white fimbriated margin is crimson with lighter markings and yellow at the base (first-class certificate).

Cattleya porphyrophlebia (W. H. Young).—A hybrid that resulted from a cross between *C. superba* and *C. intermedia*. The colour is purple rose in the sepals and petals, and rose with deeper veins in the lip (award of merit).

Hedychium var. (F. W. Moore).—This is from a cross between *H. coccinea* and *H. coronaria*. The flowers are very attractive and of yellowish fawn, deepening to red towards the base of the segments (first-class certificate).

Lælio-Cattleya Remula (J. Veitch & Sons).—The parents of this were *Lælia tenebrosa* and *Cattleya Acklandiae*. The sepals and petals are varnished brown, and the lip is dull crimson purple (award of merit).

Nymphæa sanguinea (J. Hudson).—A particularly deep blood red variety, with flowers of medium size (award of merit).

Nymphæa Marliacea rubro-punctata (J. Hudson).—A superb variety, of which the colour is described by the varietal name (first-class certificate).

Pentstemon Strain (Dobbie & Co.).—This is a magnificent strain, the flowers being very varied in colour and of the best form (award of merit).

Cherries and Plums in Pots.

The attendance at the afternoon meeting in the Drill Hall on Tuesday was very sparse, which, considering the importance of the subject, must be a matter for surprise. It would not be possible to find a person better qualified to treat of such a theme as this than Mr. H. Somers Rivers, for in addition to his own personal observations and experiences he had the splendid records of his father, the late Mr. T. Francis Rivers, as well as the late Mr. Thomas Rivers, who was the pioneer of orchard house fruit culture. With such an inexhaustible fund of information to draw upon, which gives Mr. Rivers the power to speak as a master, we should have thought far more people would be present to listen, to be interested, and to be instructed.

The essayist referred first to the remarkable degree to which the taste of birds had been educated up to the standard of selecting the finest fruits, and asserted that it was only within comparatively recent years that Cherries had been attacked by starlings to any serious degree. However, they were anxious to make amends, and at the present what with these and other feathered marauders, it was well nigh impossible to get a crop of Cherries at Sawbridgeworth except in orchard houses; even these had to be fitted with nets over the ventilators and double doors, the inner one being also of netting. Dimensions were given as having been found from long experience to be the most suitable, together with particulars of the position of all the ventilators, but the hubbub in the hall was so great that we found it absolutely impossible to get the correct figures. We can therefore only say that two sizes were recommended, the one being large and the other small. Probably many readers of the *Journal of Horticulture* have seen the houses at

Sawbridgeworth in which have been grown some of the finest fruits that have ever been produced.

Mr. Rivers then dealt concisely with the culture of those delicious fruits from the time they are removed from the house to be plunged outside after fruiting until the same stage was reached in the following season. Instructions were given on practically every detail that could possibly conduce towards success, and the complete paper (which was all too short for the interested audience), will form a valuable addition to the *Journal* of the Royal Horticultural Society, in whose pages it will appear. Selections of the most suitable varieties of both Cherries and Plums under orchard house culture were given, but again the noise in the hall prevented a list being secured.

Messrs. G. Bunyard and W. Roupell made a few remarks, mainly in corroboration of the views of the essayist, and then with a cordial vote of thanks the meeting was brought to a close.

Shrewsbury Great Show.

August 22nd and 23rd.

It would do every gardener, especially every fruit-loving gardener, good to study the sixteenth and seventeenth pages of the schedule of the great show, to be held in the beautiful Quarry Grounds, Shrewsbury, on the 22nd and 23rd of August next by the Shropshire Horticultural Society; and it would be an object lesson of the highest value to every gardener in the kingdom if he could be present to see what will be a veritable battle of the giants of the fruit-growing world. There is no question but that the best fruit in England, Ireland, and Scotland will be set up there. Let us look at the schedule, which starts on page 16 with a very significant note—a note which suggests that the committee of the society have a very high ideal of what is due from them to the horticultural world, as well as to their patrons. "Special notice:—" "The judges will be instructed to regard *quality* before *size* in all fruit classes." Class 72 is the champion fruit class, of twenty-four dishes of British-grown fruit, to occupy a space of 10 feet by 4 feet 6 inches, and there are four prizes—£25, £20, £15, £10. The fruit can be selected from the following kinds:—Grapes, Melons, Peaches, Nectarines, Pears, Apples, Figs, Apricots, Plums, Cherries; and each dish will be judged by points, as duly set forth. Pines, not being generally grown, are excluded. One variety of fruit only can be shown on a dish, but more than one dish may be shown of the same variety, the object being that the fruit so exhibited shall be of the highest cultural merit, and each dish will be judged by this standard.

Then again each collection must be decorated to give relief to the eye and enhance the attractiveness of each exhibit. Here again the committee of this society show their devotion to what always has been the dominant idea of the society, the cultivator of taste, or the principle of the beautiful in all things. Non-flowering plants (not exceeding 5-inch pots) loose foliage, and cut flowers are allowed at each exhibitor's discretion, and to emphasise the committee's idea, special prizes of £3, £2, and £1 will be given for these decorative arrangements irrespective of fruit, for the prizes offered for fruit will be awarded strictly for fruit only. Class 74 is a lesser class for the smaller growers with much the same conditions, only twelve dishes of fruit, and three prizes of £10, £7 10s., and £5, with £2, £1 10s., and £1 for decorations.

Class 73, however, is a magnificent class. Dessert tables decorated with plants (in pots not exceeding 5 inches), cut flowers (Orchids excluded), and foliage. Table 10 feet by 4 feet 6 inches. Not more than fifteen dishes of fruit of something like class 72. Each table will be covered with a white cloth. Silver, electro plate, wineglasses and decanters excluded. Any epergnes or vases for cut flowers, plates, dessert dishes, or other receptacles for fruits must be provided by the exhibitor. All the fruit will be judged by points, but in addition there will be what we may call æsthetic points for decoration, which accentuate the idea of the beautiful, as follows:—

Beauty of flower and foliage...	...	...	8 points
Harmonious blending of colours	...	...	10 "
General arrangement for effect	...	...	10 "

All this goes to show what a high ideal is insisted upon by the society, and how generously the committee meet it, the prizes being £15, £12, £8, £5.

We do not enter into the floral or any other department in these notes, those departments take care of themselves. Here is enough to show, out of pages 9 to 23 of the schedule, that the coming show at Shrewsbury this year will not be one whit behind, but will be in advance of any of its twenty-four predecessors. May we all be there to see, or at least as many of us as can get.—N. H. P.

Electricity and Vegetable Crops.—Recent experiments, especially in Russia, by Messieurs Tyurin, Spyeshneff, and Kravkoff, show that size and weight of vegetables can be greatly increased by electricity. In the case of tubers and roots the simplest means is placing in the ground vertical plates of copper and of zinc connected by wire.

Horticultural Shows.

Beckenham, July 25th.

THE ninth annual summer show, arranged under the auspices of the Beckenham Horticultural Society, was held at the Croydon Road Recreation Ground, and taking into consideration the position of horticulturists at the present time, this exhibition can be written down a thorough success. The phenomenally warm weather prevailing at the present time, though in a measure favourable to horticulture, presents to the would-be successful gardener many difficulties, which are increased by the continuance of the days of tropical heat and sunshine. The marquees were enlarged, thanks to the forethought of the hon. secretary, Mr. G. R. Stilwell, F.R.H.S., and that this precaution was necessary is shown by the fact that, although not overcrowded, all the exhibition tents were comfortably filled. The exhibits themselves were of excellent quality throughout, and more than repaid a visit to the show. The competition in nearly all the classes was keen, and the classes in which there were no entries were exceedingly few. The table decoration competitions, which nearly filled the whole of one marquee, brought out quite a number of competitors, and the first prize went to Miss Woolley. This table was obviously most skilfully arranged with very unpretentious material, but there was much more decoration crowded into the space allotted than would be judicious for practical purposes. In section III for decorative work, which included the above class, Miss E. Still was most successful, carrying off four first prizes and one third. In the open classes the awards, says a local contemporary, were fairly evenly distributed, but the names of Messrs. M. Webster (gardener to Mr. E. Preston, Beckenham), R. Robertson, H. Cooper, W. Turle (gardener to Mr. A. Baker, Beckenham), and H. Cole appeared very frequently.

Group of plants arranged for effect.—First, Mr. E. Hawkins; second, Mr. R. Robertson; third, Mr. M. Webster; fourth, Mr. E. Dove. Six plants for table decoration.—First, Mr. M. Webster; second, Mr. E. Dove; third, Mr. R. Robertson. Three plants for table decoration.—First, Mr. D. White; second, Mr. J. Draper; third, Mr. F. Smith. Three flowering stove or greenhouse plants.—First, Mr. G. E. Day. Three foliage stove or greenhouse plants.—First, Mr. M. Webster; second, Mr. H. Cole; third, Mr. W. Turle. Four plants, two ornamental foliage and two flowering.—First, Mr. H. Cole; second, Mr. H. Cooper; third, Mr. J. Causebrook. Six miscellaneous plants.—First, Mr. F. W. Price; second, Mr. M. Webster; third, Mr. W. Turle. Twelve bunches flowers.—First, Mr. G. Prebble; second, Mr. A. Lewis; third, Mr. H. E. Anderson; fourth, Mrs. G. Stillwell. Forty-eight Roses.—First, Mr. Prior, Colchester. Twelve Roses.—First, Mr. F. Jefferies; third, Mr. H. E. Anderson. Six Roses.—First, Mr. F. Jefferies; second, Mr. M. Manser; third, Mr. H. E. Anderson. Six Dahlias, Cactus.—First, Mr. W. Davis; second, Mr. M. Webster.

Prescot, July 26th.

A LOVELIER day, or a more charming situation than the portion of Knowsley Park set aside by the Earl of Derby, K.G., no society could have wished for than Thursday, July 26th, when this show was held. With the exception of the groups and plant classes, the remainder was fully up to the high standard of former years; the vegetables, especially those grown by the cottagers, being worthy of all admiration. In the class for a group of plants arranged for effect, Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, secured the prize; and was followed by Mr. H. Ogden, of West Derby. Mr. Bracegirdle was also first for six stove and greenhouse plants. Mr. John George, gardener to F. W. Mayor, Esq., Whitefield House, Roby, was second. The prizes for four greenhouse plants, six Begonias, six Cockscombs, and three Orchids were annexed by Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., Bolton Hey, Roby, who was in great form. Some well-grown Coleus came from Mr. J. Fairclough. Mr. Bracegirdle staged the best four Ferns, one greenhouse plant in flower, one foliage plant, and a good Fuchsia. Mr. George had little difficulty in winning both classes for Caladiums; Mr. T. Eaton, gardener to J. Parrington, Esq., Roby Mount, Roby, following. Gloxinias, Fuchsias, and Begonias were handsomely exhibited by Mr. W. S. Barnes, gardener to J. C. Gamble, Esq., Haresfinch, St. Helens; and table plants by Mr. Ogden.

Cut flowers were shown in great profusion. Mr. P. Greene, gardener to Lieut. Colonel Gee, winning the classes for eighteen, twelve, and six Roses. The great feature in this section, however, was made by the herbaceous flowers, and we never remember a handsomer stand as regards arrangement, brightness, and quality than that staged by Mr. George.

The fruit was of good quality, with the exception of Grapes. For four dishes Mr. W. Oldham, gardener to Joseph Beecham, Esq., Ewanville, Huyton, gained the honours with fine Black Hamburgh Grapes, Violette Hâtive Nectarines, Middlesex Hero Melon, and a Pine Apple; Mr. Eaton was an excellent second; Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, was a good third. Mr. Oldham won the classes for Black Hamburgh, Buckland Sweetwater, and Madresfield Court Grapes, also for Peaches, with Grosse Mignonne. Mr. Eaton with grandly coloured Elruge Nectarines. Hardy fruit was splendid, and the same may be said of the vegetables.



Hardy Fruit Garden.

Strawberries.—*Early Planting.*—The advantage of transferring young newly rooted stock to permanent positions as soon as possible now is that an excellent crop of fruit may be obtained the first season. The plants for this purpose ought to have been specially rooted in pots or on turves, so that when placed in their permanent positions they experience no check from having a weak hold of the rooting medium. The soil must be deeply dug, and if possible trenched, adding manure liberally to the lower spits, especially if the ground is poor. In trenching, however, avoid bringing a hungry subsoil to the surface and planting in that. The object of trenching should not be so much the reversal of the layers of soil as the deepening of the root run, and its consequent ability to provide sources of food and moisture over a longer period than would be the case with a shallow soil. In the selection of a position for planting, preference should be given to an open plot not recently occupied with the same fruit. Ground trenched or deeply dug last winter or spring, liberally manured, and since occupied only with a summer crop, such as early Potatoes, Lettuce, Spinach, or Cauliflowers, will now be vacant and admirably adapted for occupying with a first lot of Strawberries. Make the soil firm by treading when dry, especially if of a light character. It is best to plant when the ground is moist, not wet, and in dull weather. Planting may be done during dry and hot weather, but special precautions must be taken that the balls of soil and roots are moist throughout. Not only so, but after insertion the surrounding soil should be well watered, making provision for future watering by leaving a shallow depression round each plant. This, of course is to be filled up when the plants are established.

Treatment and Planting Purchased Stock.—It is often necessary to buy varieties for early planting for various reasons. Good varieties should be obtained from reliable firms. Immediately on arrival unpack the plants and ascertain their condition as regards moisture. If in small pots and the soil is dry immerse them in water, afterwards standing them in a shady position for a few days, after which plant in the same manner as detailed for home-raised examples. Rooted runners are obtainable not established in pots, and these will need very careful treatment. Thoroughly moistening the roots is first necessary. Then lay in the plants temporarily in light, moist soil in a shady position, keeping them well supplied with water until the leaves are plumped up. In inserting these it will be best to do so temporarily in a bed for a few weeks, placing them 6 inches apart. Spread out the roots on little mounds, covering the fibres with fine soil, pressing firmly. Shade at first, and give water daily. When well established so that each plant can be lifted with a ball of soil and roots, transfer to permanent positions.

Best Varieties.—Royal Sovereign is one of the best and earliest Strawberries of good quality. Vicomtesse Hericart de Thury is excellent both in flavour and productiveness. The fruit is small but early. The most generally reliable midseason varieties include James Veitch, President, and Sir Joseph Paxton. Late varieties should be represented by Frogmore Late Pine, Latest of All, Elton Pine, and Waterloo.

Distances to Plant.—A convenient distance between the rows is 2½ feet, and the plants 18 inches asunder in the rows. The smaller varieties may be planted in rows 2 feet apart, the plants 15 inches asunder. The strongest growers ought to have more space, 3 feet between the rows is not too much. Sir Joseph Paxton and Noble are strong growers.

Peaches and Nectarines.—It is important where there is a good crop to encourage its steady development by shortening or removing all superfluous wood, and keeping the succession shoots carefully laid in. This will permit of plenty of light and abundant air reaching the fruit, both of which are necessary for encouraging colour, size, flavour, and quality. Other essentials are a regularly moist condition of the soil about the roots, together with an adequate supply of suitable food. Up to the period when the fruit commences to colour frequent syringing tends to maintain the foliage clean and healthy. Liquid manure may be given to comparatively moist soil, and a good mulching should lay upon the soil as a means of keeping the roots cool and moist.

Protecting Ripe Fruit.—Apricots, Plums, Cherries, Currants, and Gooseberries grown on walls should, when the fruit is ripe, have protection from birds. Hexagon netting is suitable protecting material. Before fixing the netting shorten the foreright shoots, and nail in the young growths which are to be retained. This permits of the protection being arranged more effectively. The ends should be fixed closely to the wall, so that there are few spaces through which birds may find an entrance.

Early Apples and Pears.—The early varieties, such as Citron des Carmes Pears and Devonshire Quarrenden Apples, should be gathered

as soon as ready, as they are likely to become mealy if remaining too long. Such varieties require considerable watching, therefore examine the trees each morning for the ripe fruits.

Cordon Gooseberries and Currants.—Grown as cordons on walls and trellises Gooseberries and Red Currants are prolific if the branches are well managed. The side shoots must be annually shortened to three pairs of leaves not later than the early part of August, preferably before, in order to more fully expose the fruit to light, and concentrate the vigour on the lower buds, which will be the fruit buds the following year. An occasional soaking of water over the roots, and a continuous summer mulch is beneficial.

Bush Gooseberries and Currants.—Gooseberries as bushes may be allowed to grow freely, retaining young growths at full length, and these will next season fruit well. Avoid a crowded state of the growths by thinning out when the crop has been gathered. Black Currants ought also to be freely thinned, leaving vigorous young growths, but Red and White Currants must be pruned as cordons.

Fruit Forcing.

Cherry House.—The trees now have the wood sufficiently ripened and the buds enough plumped to allow of their being fully exposed to the atmosphere. Remove the roof-lights, which is the best means of arresting premature growth, to which the Cherry, forced year after year successively, is liable. The leaves at this stage from their hard texture are not inviting to aphides, but red spider will prey upon them unless prevented by syringing or an insecticide. If black aphides appear at the points of the shoots syringe with tobacco water, rubbing the worst affected parts gently between the fingers whilst wet with the insecticide. The border must not be allowed to become parchingly dry, but have copious supplies of water, and if the trees are weakly employ liquid manure, as poverty of bud-perfecting means collapse of the fruit after setting. Trees in pots must be regularly watered and syringed to maintain the foliage in a healthy state as long as possible.

Cucumbers.—Any house or frame at liberty may yet be planted with Cucumbers, the frame having a bed of fermenting materials which will give a supply of fruit in September and continue to do so nearly to Christmas, if due regard be had to lining the bed and to protecting the plants by mats over the lights at night after the weather sets in cold. Let the growths of plants in frames or houses be thinned at least once a week, and in growing weather twice, removing exhausted growths to make room for young bearing wood. Keep the shoots well stopped to one joint beyond the fruit, or at the fruit if the plants are vigorous and showing no signs of exhaustion. Always allow weakly plants more extension, and crop them lightly. Maintain a temperature of 70° at night, 75° by day, 80° to 85° with sun, closing early to increase to 90° or 95°, the bottom heat being kept steady at 80° to 85°. Maintain root activity by surface dressings of turfy loam or lumpy manure, and pay attention to watering two or three times a week. Syringe in the afternoon of hot days, but avoid late syringing, for the foliage should be dry by sunset. The autumn fruiters ought to be planted on hillocks or ridges, moderately firm, maintaining a moist and genial atmosphere, and they will grow and show fruit in plenty shortly.

Peaches and Nectarines.—*Early Forced Trees.*—Those which were started by or before the new year have been cleared of their fruit some time, and also had the wood on which the fruit was borne removed. This, with the removal of superfluous growths, assures to the trees an abundance of light and air for perfecting the fruit buds, and the maturing of the wood, which is encouraged by clean foliage and proper supplies of nutriment. The trees must be cleansed of insects and duly supplied with water, or in the case of weakly trees liquid manure at the roots. A light mulching will also tend to keep the roots near the surface, and prevent the premature ripening of the foliage. The buds will be sufficiently plumped and the wood enough ripened to allow of the roof-lights being removed, which should not be further delayed. This old practice has an invigorating effect, and insures the thorough moistening of the border by the autumn rains. Where the roof-lights are not movable air should be admitted to the fullest extent, and a little whitewash syringed on the roof-lights where the panes of glass are large, and when the sun's rays are powerful, such as occurs during bright weather, will be useful in preventing the over-maturity of the buds, and their dropping at a later period.

Succession Houses.—Trees started in February have mostly been cleared of their fruit, but some are still ripening and need free ventilation. As the fruit is removed cut out the wood that has borne it, and thin the growths where too close, or where they are so near each other that the foliage cannot have proper exposure to light and air. Cleanse the trees from dust and red spider by forcible syringing, employing an insecticide against it and scale. Keep the border moist, supplying liquid manure if the trees have cropped heavily and are enfeebled. This helps them to recuperate and plump the buds. Stop all laterals to one joint, or allow a little extension if the trees have the blossom buds prominent and the leaves have been infested with red spider, with a view to continuing the root action, and at the same time divert the sap from the principal buds, which must not be forced into growth. When the buds are well formed and the wood duly matured, remove the roof-lights.

Trees Started in March.—These, when only given sufficient heat to insure safety for the blossom and fruit from frost, or maintain a steady

progress in cold periods, have the fruit in an advanced state for ripening. The leaves should be drawn aside and the fruit raised by means of laths across the trellis, so that the apex will be exposed to the light. Water inside, also outside borders where necessary with liquid manure, and keep the surface lightly mulched with short, rather lumpy manure, but avoid heavy coatings, especially of matter likely to form a soapy mass and exclude air. Commence ventilating early, in fact leave a little air on all night, syringing by 7 A.M., and through the early part of the day ventilate freely. When the sun loses power in the afternoon reduce the ventilation, and raise the temperature to 85° or 90° about 4 P.M., with a good syringing and damping of surfaces, but it must be done with judgment, for when the water hangs for any length of time on the fruit during the last swelling it is liable to damage the skin, causing it to crack, or if not that it may impart a musty flavour. Therefore have the fruits dry before nightfall, and when the day is likely to be dull omit the morning syringing. Directly the fruit commences to ripen cease syringing, but afford moisture by damping the floors, especially the border whenever it becomes dry, ventilating rather freely and sufficiently at night to insure a circulation of air.

Late Houses.—In order to assist the swelling of the fruit observe the conditions laid down in the preceding paragraph. To accelerate the ripening, if desired, ventilate rather freely in the early part of the day and till one o'clock; then conserve the heat by reducing the ventilation so as to secure a temperature of 80° to 85°, and at 4 P.M. close the house, syringing well, and no harm will come if the heat rises to 90° or 95°, ventilating about six o'clock so as to let the pent-up moisture escape and reduce the temperature gradually. Tie down growths as they advance, allowing no more than are necessary for next year's fruiting and for furnishing the trees, letting all have space for development and the full exposure of the foliage to light and air. Keep laterals stopped to one leaf, also those of growths retained to attract the sap to the fruit. If there are any gross shoots which push growths from the leaf buds, cut them back to where the buds remain intact, or remove them altogether. They only tend to promote gumming, imperfect setting, and casting of the fruit in stoning. Draw the leaves away from the fruit, raise it from the under side of the trellis, and let it have as much sun and air as possible. Peaches are prized for their colour, which usually implies high flavour.

THE BEE-KEEPER.

Removing Supers.

THE weather is now all that can be desired for bee-keeping, but it has come too late to be of much benefit to bee-keepers in the midland and southern counties. The season is now practically over. All supers should now receive careful attention, as with the excessively hot weather experienced of late they will have been finished off at a rapid rate. The aim of the bee-keeper should be to have as many in first-class condition as is possible. This can be done by removing them from the hive as soon as they are in the right condition, and closing up the empty space. No greater mistake can be made than to be constantly removing the sealed sections or frames late in the season, and replacing them with empty ones.

Our plan is to remove those that are well sealed. These are usually found in the middle of the crate, directly over the brood nest, the vacant places being filled with those only partially sealed over. There will then be a better prospect of them being finished off than if placed at one end of the crate over the outside frames. All should be covered up warm, and if a piece of thin wood is laid over the tops of the frames this will keep the bees in the brood chamber, and with the extra coverings the bees will seal over the remaining sections or frames. The above refers only to districts where the honey harvest finishes with the Limes.

Some bee-keepers have a difficulty in clearing the bees from the supers. We use a carbolic cloth, which is laid over the top of the sections, and in a few minutes every bee will have been driven down into the brood chamber; the supers may then be removed with impunity. This plan has the advantage of being inexpensive.

The Porter Bee Escape.

The manufacturer of one of the most useful super cleaners thus describes the Porter bee escape. "When the surplus honey is ready to be taken from the hive, at any time of day, when convenient, raise up the super containing it, bees and all, using no more smoke than is necessary to quiet them. Place the escape board with escape in place on the brood chamber or super, if one remains on the hive, or has been put on after removing the first, place the super taken from the hive on the escape board and replace the hive cover. If this is done early in the forenoon and there is no brood or queen in the super, ordinarily in five or six hours, frequently much sooner, the bees will be practically

all out, or if done late in the afternoon, by eight or nine o'clock the next morning. If there is brood in the super, a few bees will remain clustered on it for some time; but if they have a queen with them, which rarely occurs, even though a queen excluder is not used, a good many of the bees will ordinarily stay with her, and she must either be removed, or some other means of getting them out resorted to. Owing to the varied dispositions of the bees of different colonies under the same conditions, there is a great difference in the length of time occupied by them passing from the super, and with bees of the same colony, the size of the super, the time of the day, the state of the weather, the presence or absence of the honey flow, all have their influence to vary this time. As a rule they pass out most rapidly when all conditions are such that they are naturally the most active."—AN ENGLISH BEE-KEEPER.



Rust on Beans and Mint (Rust).—The rust on the Beans is the "Bean brand," *Puccinia fabae*, and that on the Mint is *Puccinia menthae*. They have no connection whatsoever with the rust of *Chrysanthemums*. There is a considerable general resemblance in the brown rusts, but when examined under the microscope they are found to have distinct characters—indeed, are different plants.

Herbaceous Phloxes (M. G. R.).—Plant out immediately the tops that have been rooted under hand-lights, and they will then form a fine head of bloom. Raised in this way they are very dwarf, and will make good plants for the back row next season. If it is desirable to further increase the stock of choice varieties other than by division of the old clumps next autumn or spring take off the flowerless side growths, make them into cuttings, and put five or six in each 4-inch pot. Place in hand-light or frame at the foot of north wall till rooted, and winter in a cold frame. Each plant raised in this way and duly planted on a fairly rich border will give two or three strong flowering growths next season.

Streptocarpus Rhexi (M. C. C.).—This pretty dwarf-growing plant requires greenhouse treatment. A stock is readily raised from seeds, and if sown early and grown well they flower at the end of summer. Grown indifferently the seedlings may not flower until the second year. Propagation is also effected by division in the spring. The plants require rest in the winter, not allowing them to become dust dry at the roots, but keeping on a rather moist base, where they will receive a little moisture without making the soil wet, and the temperature ought not to be less than 50°. When growth recommences water should be given more freely. They grow well in light rich soil, preferably fibrous loam two parts, and one part of leaf soil with a sixth of sand. Seedlings are sometimes kept gently moving through the winter from a summer sowing of seeds, and these make a fine display the following season. The plants do not require a large amount of pot room, and take up little space. They are fine for margins to plants of larger growth.

Laelia Culture (S. L. H.).—*Laelia anceps* flowers in December and January, the sepals and petals of the flowers being of a rose lilac colour, the lips a deep purple. *L. Barkeri*, or *Barkeriana*, is a variety of *L. anceps* with purple flowers. *L. pumila* has sepals and petals of a rosy crimson, the lip a deep rose margined with white. It blooms in September and October. Grow this variety on a block of wood with a little sphagnum moss, suspending the block from the roof of the house. *L. Dayana* is a variety of the last requiring similar treatment. Purple colour predominates in the flowers, the lip being margined with lilac and white. It blooms in the autumn. *Laelias* do not require dense shade or full exposure to the hottest sunshine, but they enjoy plenty of light and an atmosphere charged with moisture. When grown on blocks the syringe may be used frequently, but in pot cultivation discard the use of the syringe, as moisture is retained too long in the sheathing scales which envelop the young growth. An intermediate temperature is best for them—that is, the maximum temperature in the summer may be about 80°, and the minimum in the winter 55°. The compost best suited for *Laelias* is fibrous peat with all the loose fine material shaken out of it. Mix this with chopped sphagnum moss and silver sand. Drain the pots well and elevate the compost above the rim of the pot so that the pseudobulbs when arranged on the surface are in a position from which the water will pass away quickly. Abundance of water is essential during growth, but when the latter is completed withhold water to some extent, so that a season of rest may be accorded, after which, if the drying process is not overdone, flowering will be freer and future growth healthy and vigorous.

Calceolaria amplexicaulis (F. A.).—Cuttings of this are best rooted in pots of sandy soil in a cool frame in the autumn and kept close to prevent the leaves flagging. The plants can then be wintered on a greenhouse shelf and potted separately in the spring. We have wintered them in a frame, but they are prone to suffer and some of them to damp off. The plants are not so hardy as the ordinary bedding *Calceolarias*. You can take up and pot the old plants.

Thrips on Azaleas (Nemo).—You will find the following an excellent means of eradicating these pests. Dissolve 2 ozs. of softsoap in a gallon of water, and pour half a gallon of boiling water on an ounce of strong tobacco. Mix the two solutions thoroughly, and then syringe the plants heavily. The best mode of doing this is to lay the plants on their sides on a mat or other clean surface, and by turning them round the insecticide can be directed to the under sides of every leaf, while at the same time the soil is not saturated. This should be repeated at intervals of ten days throughout this and the ensuing month, and the plants will be cleansed.

Nectarines Cracking (X. Y. Z., Leeds).—Various reasons have been given for the fruit cracking, and it is regarded by some as due to peculiar constitutional nature of the individual, as some trees of the same kind do not have the fruit cracked under the same treatment and in the same structure. It probably arises from an excess of nutrition at the time of taking the last swelling for ripening, the swelling up to that time not being free, and then as soon as the stoning is completed the watering is of a more liberal character, and liberates and supplies a greater amount of matter. Still the fact remains that in some years the fruits do not crack. In the case of such tree, or trees, we have found lifting to have a beneficial effect, but the subjects usually revert to the propensity in about three years, therefore periodical lifting has to be practised in order to save the fruit from cracking.

Tomato Leaves Diseased (New Reader).—The leaves are badly infested with a fungus, producing yellow spots or blotches, which spreads and sometimes destroys the whole leaf or leaves. It is the *Cladosporium fulvum* of Dr. Cooke and *C. lycopersici* of Prof. Plowright. As many of the outgrowths are mere stumps the spores will have been disseminated through the house, and no doubt fresh colonies have been established. We advise cutting off the worst infested leaves and burning them. This, of course, will tend to distribute the spores through the house to a certain extent; but it is better to do that than leave bad leaves to foster this and other fungi. Then spray the whole house with Bordeaux mixture, for which compounds have repeatedly been given in this Journal, this being the most certain remedy, but it will have a disparaging effect on the fruit through the coating of lime and sulphate of copper. It must not be used with a syringe, but as that is what you wish to do you may procure a bottle of Condyl's fluid, and use a wine-glassful to a gallon of water, wetting every part of the house as well as the plants with the solution. It may be necessary to repeat the syringing in about ten days, as possibly some parts of the fungus may not have been reached at the first application.

Duke of Buccleuch Grapes Cracking (F., Cantab.).—The chief if not the sole cause of this and other Grapes cracking is excessive moisture at the time of their taking the last swelling for ripening. This may be of the soil flushing the berries with sap, and inducing cracking at the eye or heel end, or the atmosphere tending to the expansion of the cuticle, and its consequent cracking at those or other parts of the fruit. It follows on a good watering being given to the border, especially if this has been kept rather dry previously, and the moisture arising from it, even when given in the morning. The only means of preventing the cracking is to keep the border duly supplied with water up to the ripening stage, and then withhold it altogether, a good supply being given shortly in advance of colouring, mulching the border with short, dry material, and admitting air very freely, a little ventilation being left on constantly, and a gentle warmth in the hot-water pipes so as to insure a circulation of air. This, however, is not always effectual, the natural atmospheric conditions being of a character conducive of cracking, hence some cultivators cut the bearing shoot about half way through a few joints below the bunch or just above the pruning buds, and this so limits the supply of sap as to prevent cracking of the berries to a great extent, if not wholly.

Adiantum cuneatum for Cutting (S. N. B.).—As you require the fronds expressly for cutting the plants must not be grown in a close atmosphere, or they will wither directly they have been severed from the plants or exposed to more airy conditions. A deep green colour of the fronds indicates too much shade and heat, and will not last. The young fronds on plants well prepared should have a reddish hue, and those fully developed a light green appearance. This is the result of light airy treatment. Plants that have been grown soft may be prepared to stand well if they are carefully and gradually exposed to light and more air, but they are never so good as those grown under these conditions from the first. The development of the fronds is slower and the plants are longer before they attain a large size, but the main object is secured, and the fronds are fit for use directly they are well developed. In the end it is economy to prepare the plants well for this purpose, for less than half will give greater satisfaction and less trouble than double the number grown under close treatment. Young plants raised from spores in spring and now in 3-inch pots may be placed into 5-inch pots, in which they will develop a good number of fronds before winter, and make large plants another year.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (L. J. P.).—Red Bigarreau. (W. R. C.).—1, *Spergularia arvensis*, the Corn Spurry; 2, *Thalictrum aquilegifolium*; 3, *Phlomis fruticosa*; 4, *Colutea arborescens*, the Bladder Senna; 5, *Agrimonia odorata*. (C. K. J.).—1, *Coprosma Baueriana variegata*; 2, *Scabiosa ochroleuca*; 3, *Linaria flexuosa*. (W. C. S.).—Specimen totally insufficient. (Cherry).—We regret we cannot with certainty name either of the Cherries, as the leaves, owing to the great heat when they were in the post, arrived in quite a shrivelled state.

Covent Garden Market.—August 1st.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apricots, box ...	0 8	1 3	Greengages, box ...	0 4	1 6
Cherries, $\frac{1}{2}$ bushel ...	5 0	10 0	„ sieve ...	4 6	6 0
„ $\frac{1}{2}$ bushel ...	3 0	6 0	Lemons, case ...	10 0	30 0
„ cooking, sieve ...	5 0	6 0	Melons, house, each ...	2 0	3 0
Currants, black, lb. ...	0 0	0 6	Oranges, case ...	10 0	25 0
„ red, sieve ...	4 0	5 0	Pines, St. Michael's, each ...	3 0	8 0
Figs, green, doz. ...	1 6	3 0	Plums, sieve ...	3 0	4 0
Gooseberries, $\frac{1}{2}$ bushel ...	1 3	1 9	Raspberries, 12 lbs. ...	3 0	6 0
„ ripe, $\frac{1}{2}$ bushel ...	2 0	2 6	Strawberries, basket ...	1 0	0 0
„ green, $\frac{1}{2}$ bushel ...	4 0	7 0	„ peck ...	4 6	6 0
Grapes, black ...	1 0	3 0	„ home grown, doz. ...	4 0	12 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	2 0	Leeks, bunch ...	0 3	0 0
Beans, Long Pods ...	2 0	3 0	Mint, green, doz. bunches ...	2 0	0 0
„ French, sieve ...	4 0	0 0	Mushrooms, lb. ...	1 3	1 6
„ scarlet, sieve ...	2 0	3 0	Mustard and Cress, punnet ...	0 2	0 0
Beet, red, doz. ...	0 6	1 6	Onions, bag, about 1 cwt. ...	5 6	0 0
Cabbages, tally ...	3 0	5 0	„ Egyptian, bag ...	4 0	0 0
Carrots, new, doz. ...	2 0	3 0	Parsley, doz. bunches ...	2 0	4 0
Cauliflowers, spring, per dozen ...	3 0	4 0	Peas, English, per bushel ...	1 6	5 0
Celery, bundle ...	1 0	1 9	Potatoes, cwt. ...	5 0	10 0
Cucumbers, doz. ...	2 0	4 0	„ new Jersey, cwt. ...	10 0	12 0
Endive, doz. ...	3 0	4 0	Shallots, lb. ...	0 4	0 0
Herbs, bunch ...	0 2	0 0	Spinach, bushel ...	2 0	6 0
Lettuce, doz. ...	0 6	0 0	Tomatoes, English, doz. lb. ...	3 0	5 0
„ Cos, score, from ...	0 6	2 0	Turnips, new, doz. ...	4 0	6 0
			Vegetable Marrows, doz. ...	0 9	1 6

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Arums ...	1 0	2 0	Marguerites, doz. bnchs. ...	2 0	4 0
Asparagus, Fern, bunch ...	2 0	2 6	„ Yellow doz. bnchs. ...	2 0	4 0
Carnations, 12 blooms ...	1 0	2 0	Odontoglossums ...	3 0	4 0
Cattleyas, per doz. ...	6 0	12 0	Pelargoniums, doz. bnchs. ...	4 0	6 0
Eucharis, doz. ...	4 0	6 0	Roses (indoor), doz. ...	3 0	4 0
Gardenias, doz. ...	1 0	2 0	„ Red, doz. ...	1 0	2 0
Geranium, scarlet, doz. bnchs. ...	4 0	5 0	„ Safrano, doz. ...	1 6	2 0
Lilium lancifolium album ...	2 0	3 0	„ Tea, white, doz. ...	2 0	3 0
„ „ rubrum ...	2 0	3 0	„ Yellow, doz. (Perles) ...	2 0	3 6
„ various ...	2 0	3 0	„ Maréchal Niel, doz. ...	6 0	0 0
Lily of the Valley, 12 bun. ...	8 0	18 0	„ English:—		
Maidenhair Fern, dozen bunches ...	2 0	3 0	„ La France, doz. ...	2 0	3 0
Mignonette, doz. bunches ...	1 0	2 0	„ Mermets, doz. ...	3 0	6 0
			Smilax, bunch ...	2 0	3 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	24 0	Foliage plants, var. each ...	1 0	5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	„ pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each ...	2 6	5 0
Azaleas, various, each ...	2 6	5 0	„ pink, doz. ...	12 0	15 0
Boronias, doz. ...	20 0	24 0	„ paniculata, each ...	1 0	3 6
Cannas, doz. ...	18 0	30 0	Lilium Harrisii, doz. ...	8 0	18 0
Orotons, doz. ...	18 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	8 0	12 0
Euonia various, doz. ...	8 0	18 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
Ferns, var., doz. ...	4 0	18 0	Roses, per doz. ...	6 0	18 0
„ small, 100 ...	4 0	8 0	Stocks, doz. ...	8 0	12 0
Ficus elastica, each ...	1 6	7 6			



How Farmers are Trained Elsewhere.

IF we take a map of Europe we see to the right the great peninsula separated from Russia by the Baltic—the peninsula that comprises two countries, Norway and Sweden; in many respects alike, but also differing in several points. “Scandinavia” is the name by which these two countries generally go, and they are countries to which we owe much—perhaps more than we realise. They were ever an enterprising race, these hardy Norsemen and Vikings of old, and they made many a dread incursion on the long line of unprotected East coast. They did not confine their ravages to the seaboard. The land was fruitful, the people few, and they gradually settled and made colonies, each year more and more inland. A strong suffusion of their blood is in our veins, mixed with Saxon and a little Norman. No wonder they preferred the fertile plains of England to their own bare hilly land, where it would be found difficult to get sufficient level ground even for a cricket pitch. The Norseman is no longer a sea robber; his energies are devoted to more peaceful pursuits. He makes the best of indifferent soil, and his crops are a standing proof of how the sword has been turned into the ploughshare to some good purpose.

We have this day received a list of publications issued by the Agricultural Education Committee, and in that list we find pamphlets respecting the agricultural education in various parts of the world, Sweden included, and then fortunately we met with a most interesting article on Scandinavian agricultural teaching by a well-known professor. The dead bones of the prophet's vision are stirring. Everywhere people are becoming alive to the necessity of giving some special training to the agriculturists of the future. Would that we were as far-seeing as some of our neighbours. Purely agricultural are the people of Sweden—at least, we think we may fairly claim that for them, as we find that 80 per cent. are engaged on the land—in Norway actually 82 per cent. We do not suppose this could be said of any other countries, in Europe at least. The populations are not large—in Sweden about 4,500,000; in Norway about half, or rather less. It is not a pleasant fact to face, but a boy in Sweden, the son of a peasant farmer, has far better facilities for agricultural instruction than the son of large tenant farmer here, unless the father is prepared to pay heavy fees. We have much to learn from Sweden yet.

Bear in mind what we said as to the Swedish population, under 5,000,000. Now, for the benefit of the agricultural portion we find fifty-seven institutions, thirty-eight of which are classed as agricultural elementary schools; the rest are colleges and dairy schools. There are beside these twenty-nine control and experimental stations dealing with chemical work and seed-testing. This works out to one agricultural or dairy school to every 68,000 members of the rural class. Here we have similar institutions, one to each 3,000,000; how does that strike the English reader? In England and Wales we have some thirteen agricultural schools, as against forty in Sweden, and yet the Swedes cry, “Not enough!” for there are many more applicants than the schools can accommodate. Then these Swedish schools, in the matter of fee, reach a class not touched here, with the exception of a few sharp lads who get C.C. scholarships (we have not enough of them, by the way). The farms as a rule are very small, 86 per cent. being under 50 acres, so that we may be pretty sure that lads drawn from them cannot in any case find much money. The course at these schools lasts two years, and the lads after desk work in the way of drawing, mathematics, science, and book-keeping, do practical work on the farm carpenter's bench and blacksmith's anvil. In after life they will be so isolated that they must depend upon themselves for necessary

repairs to their working tools. Is not this better than so constantly either letting things go to ruin for want of the proverbial nail or the frequent visits to the village artisan?

We have been told that no one can make an experimental farm pay here—experiments are costly, and we must be prepared for a deficit; but in some of these schools, both in France and Norway, the director has to get his salary, or part of it at least, out of the profits of the farm; so it appears there is a solution to this difficulty. We like doing things on so big a scale—we are above such small matters as £ s. d. At one college (Aas) chemistry, physics, horticulture, and the management of machinery are amongst the subjects taught. How it is done for the money is a puzzle to us. The district, or what answers to our county, can send boys for £5 10s. per annum, which money covers every item but books and writing material. Outsiders pay up to £16. The boys or lads are not taken too young, they must be eighteen years of age, and of course the embryo farmer has the preference when the would-be students are more numerous than the vacancies. At eighteen years of age a lad should know his own bend, and also then he will be better able to appreciate and value the rare advantages that have fallen to his lot.

Norway goes one better than Sweden in the matter of training schools. The Agricultural Education Committee must be stronger there! Besides its agricultural and dairy schools, it has five in which forestry and horticulture are taught. Norway has 146,000 farms, and of these 94 per cent. are under 50 acres. So here again we may be sure the student is not drawn from the richer part of the population. Denmark, too, though with a smaller rural population, finds the need of agricultural training schools and experimental stations. Her farms are, as a rule, very small, 87½ per cent. being under 50 acres. That Denmark is far in advance of us as a dairy country needs no comment. She took the bull, or rather the cow, by the horns, and in a systematic way reformed all her dairy processes, and now heads the market with her butter.

We fancy our young lads would only learn too eagerly had they the chance, and we cannot help thinking that someone is very much to blame that we as a nation should be so far behind our Scandinavian friends.

Work on the Home Farm.

A very hot week broken by one heavy thunderstorm has brought on all crops surprisingly. The storm was the longest we can remember, vivid lightning and heavy peals of thunder lasting without intermission for nine hours; the rainfall was not at all proportionate to the amount of electricity, it lasted for little over an hour, and was not altogether half an inch. It was grand for Turnips, not being too heavy. Swedes are filling the rows in well, and the later Turnips are making rapid strides in the same direction.

Grain crops have changed greatly during the week, and harvest, which we had hardly expected to be here before August 20th, may now be in full swing a week earlier than that date. Barley is coming on the most rapidly, and looks like being easily first in the field for use of the reaper.

There are a great many bleatings of sheep in our ears, and evidently our neighbours like ourselves think it is time to wean the lambs. Shepherding work is very heavy. Flies were never worse to deal with, and the ewes' udders have to be closely watched to detect the first symptom of downfall. The very slightest lameness in a hind leg must be at once attended to, for this is often the first thing which draws the shepherd's attention to a case of downfall, and when lameness begins the case has generally made quite enough progress. The sheep might well be said to have a golden hoof, when we see announced the third instance of a ram fetching a thousand guineas.

We had an opportunity a few days ago of seeing a new spraying machine in operation on a field of Potatoes. Unfortunately the machine had been damaged in transit, and the man in charge being rather green to his job, as far as we saw little progress was made; but we saw enough to convince us that the work would be very well done under more favourable circumstances. In fact, we hear very favourable accounts of a duplicate machine in the next parish. A mixture of sulphate of copper and lime was used, containing 24½ per cent. of copper; 20 lbs. dissolved in forty gallons of water being sufficient for one acre. A har runs just above the ridges and bends down the haulm; the spraying is therefore done on the under side of the leaves before the tops have had time to rise. The Potatoes we saw done were very high, and we thought the machine would give them quite enough knocking about. However, as a portion only of the field has been sprayed, we shall have an opportunity later of judging as to the efficacy and value of the operation, which costs 12s. per acre, the hirer finding two horses and two men. The machine is "Bowles' patent Potato sprayer."

Butter Making!

GREAT blame is often attached to our English butter makers for putting inferior produce on the market. It is hardly fair to blame them when often it is the fault in a great measure of their poor dairies. Let me give two instances. Staying this week in a country village with a friend I was surprised to see in her cellar a churning of butter (she did not keep cows). The mystery was soon explained. Her neighbour with two or three cows had only one tiny pantry facing S.W., and opening on to the kitchen and parlour. In this pantry every eatable and milk had to be kept, and had it not been for the loan of my friend's cellar the poor woman could never have kept an ounce of butter. But what of the milk before it arrived at the butter stage?

On the opposite side lived another cowman. His dairy was in the centre of the house, without window, and the only ventilation filtered through kitchen and living room doors. In both cases the women were scrupulously clean and particular; but what chance had they to make sweet-tasted butter? The houses are not cottages, but places with two sitting-rooms, kitchens, and four or five bedrooms, with a little land attached. In one case I am perfectly certain the landlord would not stir an inch to mend matters; of the other landlord I cannot speak.—RUSTICUS.

Women Gather the Harvest.—Farmers in the West of England are very much behindhand with their hay harvest owing to the great scarcity of labour. The wives and daughters of the harvesters are doing their best to aid in the haying, and on many farms more women are to be seen in the fields than men.

Increase in Creameries.—The "North-West Agriculturist" says: Five years ago there was not a creamery upon the Minneapolis and St. Louis Railroad; to-day there is not a station upon the road which has not at least one if not several creameries. Last year the road hauled 11,000,000 lbs. of butter from southern Minnesota. That means a good deal of cash for our farmers; it also means forage crops and fertilisation for the farms and permanent prosperity.

Harvesters.—The present scarcity of labour in the agricultural districts has been the means in some cases of bringing together a strange and motley assemblage of fellow-labourers. A correspondent states that at one farm in Surrey he found the haymakers included a couple of clerks, a compositor, a solicitor who had been unable to scrape up the money to take out his certificate, a medical man "down on his luck," a pawnbroker's assistant, and, of course, a journalist. The journalist explained that he was there only for purposes of "copy." He intends to write an article, and to call it "Haymaking by Eminent Hands."

Import your Farm Labourers.—While British farmers are suffering through the lack of labourers, the remedy lies just across the Channel. In Jersey and Guernsey the crops are being gathered in by swarthy Bretons, who work steadily from 5 A.M. to 9 P.M. for half the money demanded by the British farm hand. Protected by large straw hats, they seem impervious to the heat, though the quantity of cider consumed bears eloquent testimony to their thirst. Many of these Bretons have already returned to their own country, but an efficient number still linger in the Channel Islands ready to take work, says a contemporary, even on the shores of "perfidious Albion." Jersey farmers also employ French peasant girls as domestic servants, with equally satisfactory results.

Milk and Fever.—At a meeting of the Dunfermline District Committee of the Fife County Council last week, Dr. Nasmyth, medical officer of health for the county, in reporting on a case of scarlet fever at a dairy farm, said that at the dairy in question, as at several others, the domestic washing house and the dairy scullery were combined, which he observed was not a proper arrangement, and was very apt to lead to milk infection. He suggested a new regulation prohibiting the keeping of milk or milk vessels in any byre, dwelling-room, or any apartment used for the washing, boiling, or drying of bed and bed clothing. The proposed regulation was remitted to the Public Health Committee.

Bean and Pea Meals as Cattle Foods.—Both pea meal and bean meal admit of being employed to much advantage in the feeding of dairy cows. A certain amount of discretion and judgment is necessary, however, in using them, because, though very valuable food when given in small quantities and in conjunction with other substances, they are not without their shortcomings if fed to any extent by themselves. They belong to the class of foods known as albuminoids, and are consequently deficient in carbohydrates or fat-forming materials. In order to constitute them a suitable food they must be given with other substances capable of supplying the heat-forming materials in which they are themselves deficient. For this purpose they go well with such food as maize meal or linseed cake. Cows fed upon pea and bean meal usually produce milk of good quality, and the butter obtained therefrom when properly made is invariably firm of texture and of good grain and colour.—("Farmers' Gazette.")

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THURSDAY, AUGUST 9, 1900.

Bulbs for Forcing.



It is surprising what a large part is played by Hyacinths, Tulips, and Narcissi in the decoration of greenhouses and conservatories during the sunless and dreary months of autumn, winter, and spring. The decorative value of these bulbous plants is beyond question, for they could not well be dispensed with in those gardens where flowering plants for room decoration are killed by hundreds, and large quantities of flowers in a cut state are daily required for a variety of purposes.

These are amongst the easiest of bulbous plants to cultivate, and with ordinary care failure need not result when the season has fairly advanced; but to have them in flower very early is another thing, and more persons fail than succeed in the attempt. We have seen quantities of bulbs started to be in flower before the end of the year, but they have scarcely ever moved after their introduction into the forcing house, and if they have it is only to burst a flower or two at the extremity of the spike, and they are then conveyed to the rubbish heap. This is not only vexing, but is waste of material, time, and money. Failure in this respect is not always due to the absence of cultural skill, but frequently results from the impatience of their owners to have them in bloom really before the bulbs are ready. Frequently they are ordered to be placed in heat when such a step is wrong; but the error is only perceived by the authors of it when the spikes fail to grow and unfold their flowers. To attempt to drive the plants in that way is simply commencing at the wrong end first.

These bulbs can only be had in flower early in one way, and that is by potting as early as they can be obtained. They will not force into flower until their pots are full of roots, and then strong heat is ruinous. A moderate temperature of 55° to 60°, where a moist genial atmosphere is maintained, will bring them forward after the pots

During FIFTY-TWO YEARS the "JOURNAL OF HORTICULTURE" has been written by Gardeners for Gardeners, and in its principles, its practice, and its price it still remains the same. One alteration is perhaps, however, necessary. Our modern methods of production have rendered the price old-fashioned, and hence in order to meet the wishes of the present generation of Gardeners the "JOURNAL OF HORTICULTURE" will hereafter be sold for TWOPENCE instead of Threepence.

are full of roots and the foliage has commenced developing better than a temperature 10° or 15° higher.

After the bulbs are potted they should remain under the ashes or other plunging material outside for six weeks. Tulips are sometimes longer than that in starting early in the season. They should be left, however, until the pots are well filled with roots, for nothing is gained by bringing them out before they reach this condition. Light should be admitted to them gradually until they turn green, after which they are not long before they commence growing. Two or three weeks in a cold frame or cool house is not time lost but gained, for the plants make greater progress there than they would do in heat. It is a great mistake to introduce them from a cool temperature to the forcing house; they should first occupy a position in a vinery or Peach house just starting, or any house where similar conditions are maintained.

The early white Roman Hyacinths are the first bulbs to arrive, and for cutting and other kinds of decoration are unsurpassed. The first consignments arrive about the middle of July, and if obtained and potted or placed in boxes at once, their delicious flowers can be had from the middle to the end of October without resorting to any undue forcing. We require the blooms by the 1st of November, and we always pot on the 1st of August to accomplish this. The flowers are produced under cool treatment by the date named in the majority of seasons, and in the worst only require a week or ten days' warmth to bring them fully out. When required only for cutting the bulbs are as well packed closely together in pans or boxes as placed in pots; in fact, for the earliest flowers they are better placed thickly together, for they do not usually start so evenly and regularly as later in the season. When required, handsome pots can be made up by lifting the bulbs from the boxes as they come into flower, and the plants and flowers last quite as long as when grown in the pots. We have practised both systems, and find no perceptible difference. Later batches should be planted at intervals of a month as long as the bulbs remain fresh, but as soon as they show signs of gum oozing from them potting must not be delayed a day longer. The blooms of these are invaluable for cutting long after the varieties of Dutch Hyacinths can be produced. We usually place four or five bulbs in a 4-inch pot according to their size, use no drainage in the pots, giving preference to a little decayed manure. Any light, sandy, moderately rich soil is suitable. The supply of Roman Hyacinth flowers can be maintained from October until March if the last batch is placed in a suitable position outside, and covered with hand-lights just as they flower to prevent the flowers being injured by cutting winds and heavy rains.

The blue Roman Hyacinth can be had in flower about Christmas if bulbs are obtained as early as possible. The flowers about that time are serviceable for cutting, but for decoration in pots it is worthless, for the foliage is produced before there is any sign of flowers, and generally it is so long and weak that it falls over the sides of the pots unless supported with stakes.

The large-flowering or Dutch Hyacinths should be potted at once, or as soon as they can be obtained, if they are to flower without much trouble by Christmas. We have on several occasions had *Homerus*, single red, in flower by the middle of December. This is the earliest of all Hyacinths, and forces well, on which account it is valuable, but scarcely worth growing later in the season, as the colour soon fades. *L'Ami du Cœur* is the next earliest red variety.

La Tour d'Auvergne, double white, is only a few days later than *Homerus*. It is the earliest of all white Hyacinths, and decidedly the finest double variety for growing at any period during the season. The spike is large; the bells pure white, large, and very double, therefore invaluable for those who require to wire flowers in quantity for wreaths, bouquets, or buttonholes. The earliest single white variety we have yet been able to discover is *Grand Vedette*, followed closely by *Albertine*. The first-named makes a grand

pyramidal spike, is very dwarf in habit, with bells of a very large size. Amongst blush varieties *Gigantea* and *Lord Wellington*, singles, are the earliest, but nearly a week later than those above named. Our earliest single blue is that finest of all blue varieties for decoration, *Charles Dickens*; it is a day or two earlier than the preceding two.

Early single Tulips generally arrive about the same time as Hyacinths, and can, if started early, be had in flower with ease from the middle of December. The varieties of *Duc Van Thol* are decidedly the earliest. The scarlet variety is good, also the rose-coloured. The others we have discarded in favour of *Canary Bird*, yellow, and *White Pottbakker*, which are only a few days later than *Duc Van Thol*. *White Pottbakker*, in addition to its adaptability for early forcing, is perhaps the finest white Tulip in cultivation. When forced early it does not exceed 5 inches in height; the flowers are large, and beautiful for wreaths, vases, bouquets, or any other purpose of decoration, and are very fragrant. All the Tulips used for early forcing are packed in pans or boxes, placing the bulbs about 2 inches apart, and then lifted out as they come into bloom, and even pots made up; the bulbs are tied in moss when used for baskets, peculiar shaped vases, and other receptacles. At one time we thought this a rather barbarous system, but it is decidedly the best, and the only means by which even pots full of bloom can be had so early in the season. The flowers last as long if the bulbs only are attached to them as if they possess roots. It is possible to have Tulips in bloom early in December.

Paper White and *Double Roman Narcissi* bulbs generally arrive at the same time as the Roman Hyacinths, and if potted, then can be had in bloom by the first week in November. These varieties are next to useless for decoration in pots, and should always be planted thickly together in boxes and pans for cutting purposes only. The bulbs are not so certain to flower as Roman Hyacinths; we have been very much disappointed with them some seasons, and resolved not to grow them again, while in other years they have done well. A few only are grown to produce flowers until we can get *States General* into bloom, which is the next earliest variety. The double Roman is about ten days earlier than *Paper White* when the bulbs are potted together, and if those of *States General* could be obtained at the same time it would not be far behind them.

The secret of having bulbous plants in flower early is to know what varieties are best adapted for forcing, then secure the bulbs directly they arrive, and pot or box them at once. Success afterwards is certain if they are forced into bloom as steadily as possible on the lines above indicated.—B. O. M.

Apples in Barrels.—Many of the most profitable operations in commercial life depend in the first instance on very simple facts. Most persons would pass by without observing the barrelling of Apples as a case in point. If Apples were placed loosely in barrels they would soon decay, though passing over but a very short distance of travel; and yet, when properly barrelled, they can be sent thousands of miles, even over the roughest ocean voyage, in perfect security. According to an American contemporary this is owing to a fact discovered years ago, without anyone knowing particularly the reason, that an Apple rotted from a bruise only when the skin was broken. An Apple can be pressed so as to have indentations over its whole surface without any danger of decaying, provided the skin is not broken. In barrelling Apples, therefore, gentle pressure is exercised so that the fruit is fairly pressed into each other, and it is impossible for any one fruit to change its place in the barrel on its journey. Apples are sometimes taken out of the barrels with large indentations over their whole surface, and yet no sign of decay. In these modern times we understand the reason. The atmosphere is full of microscopic germs which produce fermentation, and unless they can get an entrance into the fruit rot cannot take place. A mere indentation without a rupture of the outer skin does not permit of the action of these microbes.



Cattleya F. W. Wigan.

THE meetings of the Royal Horticultural Society that are held in the Drill Hall at this period of the year are not usually conspicuous for the large number of Orchids that are exhibited. As a matter of fact these plants are almost invariably represented to a limited degree,

make the plan more popular, for there are often spare plants of various well-known kinds that are too good to throw away, but get crowded out by rarer forms, and these are the best to use.

It is too much to expect that Orchids of any kind will thrive on bits of rockwork underneath the stages like Periwinkles and some of the more easily grown Ferns and Mosses, but in planting out ferneries on back walls and odd corners that are filled with rockwork many will thrive. For instance, there is the section of *Cymbidium* of which *C. giganteum* and *C. Lowianum* are typical. In a cool, moist, and comparatively shady structure these make a splendid growth, and in one large place in the Midlands they are planted all along a Fern-lined corridor on each side, their fine arching foliage being as handsome and fresh as that of the Ferns.

I did not see the plants in flower, but the effect must be very



FIG. 33.—CATTLEYA F. W. WIGAN.

and quality has to take the place of quantity. Amongst the few shown at the Drill Hall on July 28th, *Cattleya F. W. Wigan* (fig. 33) was very handsome. The plant was exhibited by Mr. W. H. Young, Orchid grower to Sir Frederic Wigan, Bart., Clare Lawn, East Sheen, and was recommended for a first-class certificate by the Orchid Committee of the society. It is a hybrid that resulted from a cross between *C. Schilleriana* and *C. aurea*, and the flower is strikingly handsome. The sepals are rose with crimson venations, the petals also being rose, but of a bright shade; the sepals have a suspicion of a bronze green suffusion. The broad flat lip is crimson with lighter markings, and yellow at the base; it has a white fimbriated margin.

Orchids on Rockwork and Walls.

It is not every species of Orchid that is suitable for planting in rockwork or dressed walls, but there are many that are, and some few perhaps that cannot be so well grown in any other way. This should

good. In this case separate pockets had been made at various heights, but the plants had outgrown these completely, so vigorous was the growth. That singular *Cypripedium Pearcei* I have noted doing well on several occasions, with its rambling rhizomes and crowns pushing in all directions on the rockery. This is by no means always a success when grown in pans in the usual way, and doubtless the freedom obtained by the roots in the rockery is a help to it.

Most *Cypripediums*, as a matter of fact, make a fine growth when grown this way, and flower freely provided the light is good. They should be planted below the line of vision where possible, as the shape of the flowers shows up better. The least satisfactory species for the purpose are those which require exactly opposite conditions winter and summer, such as *Thunias* and deciduous *Dendrobies*. But with a careful selection a very interesting feature may be made in Orchid houses by these means.

Dendrobium Pierardi.

Despite the fact that thousands of plants of the various deciduous *Dendrobiums* are imported annually, and that at present there does not seem any prospect of their being used up in their native habitat, yet there will come a time when some at least of the kind must become scarce. And this would practically mean their passing out of cultivation, for in many cases they cannot be successfully grown in this country over a number of years.

Not that isolated instances may not be given of plants that have lived and flowered for a considerable time, but what I have never seen, and I think I may be excused for saying I never hope to see, is a plant of, say, *D. Wardianum*, *D. Devonianum*, or even *D. crassinode* increasing in size annually after, say, the tenth year in this country. The subject of this note, on the other hand, does, without a doubt, improve in a remarkable manner, and this makes it at once one of the most useful, as it certainly is one of the most beautiful, of this section of the genus.

Some fifteen years ago some very poor bits of *D. Pierardi* were purchased at a sale for a West of England collection, and these are now fine plants in baskets 2 feet across; they each produced some thousands of flowers during the present season, and the young growths are already nearly a yard in length. Such specimens in flower are very lovely despite the lack of foliage, and they should where possible be arranged so that there is a background of green, such as Ferns or Palms. Suspended in a large conservatory where these plants are present, the latter defect is not noticed.

The treatment does not differ in any essential degree from that of other deciduous sorts, but *D. Pierardi* likes a little more pot or basket room than the other types mentioned above. Ample heat and moisture while growing, and a distinct ripening and resting period, are important details. It is necessary that the compost should be renewed in part at least every year, as being a strong grower the roots need more feeding than a weaker species. Its intrinsic merit should insure it a place in every collection.—H. R. R.

Odontoglossum ramosissimum.

THE fact that "R. J. W." has not seen *Odontoglossum ramosissimum* in flower is not evidence, as he supposes, that the plant is extremely rare. It is a New Grenadan species, and is thus described in Williams' "Orchid Growers' Manual"—"This is a very old and distinct species, with oval compressed pseudo-bulbs, very long ensiform leaves, and scapes 3 or 4 feet high, bearing stiff and excessively divaricated branched panicles of innumerable flowers; the sepals and petals are narrow, lanceolate, undulate, of a brilliant white, the basilar portions of the petals lilac-purple; the lip is cordate, dilated, and undulated at the base, the front part lanceolate, acutely pointed, having a large purple-lilac disc. It flowers during the winter months." The character of the flowers is well portrayed in the illustration (fig. 34).

Reminiscences of an Old Florist.

(Continued from page 513.)

I HAVE already mentioned the principal events which the sixties brought to my remembrance, and in bringing these reminiscences to a conclusion I record those occurrences in the seventies in which I was more especially interested, and which were certainly the principal events in my horticultural career—I mean the establishment of the Horticultural Club and the foundation of the National Rose Society. Many people had felt for some years that it would be a good thing if some bond of social union existed amongst those who were engaged, whether as amateurs or professionals, in the advancement of the art in which so many people were interested.

At a dinner given by the proprietors of the *Journal of Horticulture* at the Star and Garter at Richmond, in 1871, the subject of a horticultural club was mooted. The idea was thought a good one, and I was asked whether I would act as secretary in trying to establish it. I had had some experience in organisation, and I knew the difficulties which surrounded the subject. The times were, however, fortunate; the country was at that time, to use Mr. Gladstone's words, "progressing to wealth in leaps and bounds," and so the announcement was made that the Horticultural Club was in process of formation. Some people were ambitious enough to imagine that we would start a club house of our own, but this we knew was impossible, as it involved great expenditure and great risks, and the necessity of a guarantee fund. It was therefore determined either to attach ourselves to some other club already in existence, or to obtain quarters at some good hotel, to which our members could resort.

We began by taking up our abode at the Adelphi Terrace as a

charming situation, but it was poor accommodation. We afterwards attached ourselves to the Temple Club, which had very good quarters in Arundel Street, Strand, and we remained there for some time, and our members were tolerably well satisfied. Unfortunately, however, there was no bedroom accommodation, and so our members had to seek that elsewhere. Then evil days came upon the Temple Club, which was a proprietary one, and we had notice that its doors would be closed. What was to be done? It was suggested that we should find accommodation in some of the many hotels with which the central district of London is crowded, and it was considered especially desirable that we should get near to Covent Garden. We managed to secure a place at one of the hotels there, but the accommodation was not very satisfactory, and it seemed as if we should not be able to establish ourselves anywhere. One day, however, as I was driving up from Victoria Station, I noticed that what used to be called the Army and Navy Hotel, opposite the Stores, had changed hands, and as I knew something of the manager from his having been connected with a hotel at Tunbridge Wells, it struck me what a desirable thing it would be if we could obtain accommodation there. This after some preliminaries we were able to do. So now the club is established at the Hotel Windsor, close to the Drill Hall, where the meetings for the Royal Horticultural Society are held, and the accommodation is everything that can be desired. Thus a success on every point has crowned our endeavours.

The year 1876 witnessed the great horticultural event of my career, namely, the formation and establishment of the National Rose Society. The increasing interest which had been shown in our national flower had clearly demonstrated how unsatisfactory were the arrangements for its exhibitions, especially round the metropolis; two-days shows were the rule, and although there were some good exhibitors in both the amateur and professional classes, it was felt that the flower was not adequately provided for, and murmurs of discontent reached me from many quarters. Canon Hole had arranged an exhibition at the Hanover Square Rooms, which was very successful in its way, but it did not lead to the establishment of a society, or anything of a permanent character, but it still more whetted the appetite of Rose growers, and I was besieged more and more by many who said "Why do you not move in the matter?" I took heart of grace, and sent a circular to all the principal Rose growers in the kingdom to ask them to attend a meeting at the Horticultural Club, which had lately been established at the Adelphi Terrace; it was a bold step, and I very much quaked when the day arrived. It was a cold, raw, wet day in December, and I must say my heart misgave me when I entered the room where we were to meet; but the thermometer rose when one after another of our most distinguished rosarians entered the room, and when I saw the portly form of Dean (then Canon) Hole filling up the doorway I could not help saying to myself "Now we shall do well." A subscription list was formed, and it was determined to hold an exhibition at St. James' Hall; we did not know how it would take with the London public (as a matter of fact it did not take at all). The only tickets, I believe, that were sold were those to personal friends of our exhibitors, and the takings did not exceed £80, so that bankruptcy stared us in the face. Our exhibitors, however, were loyal, and consented to receive only a portion of the prize money due to them.

It were useless to detail the many difficulties through which we floundered. Suffice it to say that after a time we connected ourselves with the Crystal Palace Company—that best of all places for a flower show—and that we held beside our metropolitan show there two provincial ones each year. But these things are all so recent they cannot be called reminiscences, I must therefore bring these jottings to a close. I feel that at my age it is impossible for me to do as I have done, and I may probably have ere long to resign the position which it has been my pride and pleasure to maintain so many years, and to entrust the care of my child to my worthy coadjutor, Mr. Mawley, and to ask the society to give him a helper in my place.

These reminiscences have brought before my mind many who were associated with me, but who have now passed away. Many kind and valued friends who were bound to me, not only by a common interest in the flower we loved so well, but by those ties of mutual regard and affection which tend so to sweeten our passage through life. I contrast the Roses of the present day with those of the earlier period of my career, and I feel it to be a comfort that while rejoicing in the additions that have been made I am not compelled to discard the loves of my earlier days. I have seen horticulture in all its branches wonderfully advanced, the world is more closely linked together than ever it was before, and the productions of the most remote parts of the earth are now brought to our shores. I wonder what the verdict of fifty years hence may be, whether they will regard us of this generation as puny champions in a cause we did not really understand, or as pioneers in a great movement which tends to bring into prominence that love of nature and delight in all the teachings which is so well calculated to elevate the mind and brighten our passage through life.—D., Deal.

Fertility of the Garden.

THE term fertility, as applied to the soil of the garden, expresses the amount of available plant food therein contained, and this is measured by the quantity of produce obtained year by year. The fertility, or richness, of a soil as regards plant food, may be either natural or acquired, according to the source from which it was derived. Thus a gardener may change a barren soil into one of exceptional productiveness by the application of the proper elements of plant food, combined with materials for its amelioration and physical constitution.

On the other hand, common experience teaches us that if crops are taken off the garden year after year without anything being returned to it, the yields obtained will gradually decrease until the soil can no longer be cultivated with profit. The decrease in the yield of crops will be more or less rapid according to the character of the soil and of the crops grown; some soils are naturally rich, and their fertility is but slowly decreased; others have only a small store of fertility and are soon exhausted—in the same way some plants make greater demands upon the resources of the soil than others. Thus the question of manuring in its various aspects is a very essential one to the gardener, and one which teems at the foundation of successful horticulture, in whatever branch it may be studied.

Natural fertility is the most important factor of a garden soil, as being the contribution of Nature to its annual yield. It consists, in addition of from 5 to 10 lbs. of ammonia per acre derived from the atmosphere in rain, snow, and dew, also of unaided natural resources of the soil which have accumulated by the growth of previous generations of plants and animals living and dying on the land, and from the disintegration or breaking up of the mineral ingredients which enter into the composition of plants, and by chemical changes becoming gradually available as food of crops.

When the natural fertility is in great abundance the soil may, through the application of skill, be always expected to respond with certainty to the efforts of the gardener, while a poor and sterile soil can be kept productive only by a constant expenditure in manure.

Acquired fertility is the expression which covers the amount of plant food left over from preceding years. When a dressing of stable manure is applied to a garden soil, all the plant food ingredients contained in it are not removed by the immediately succeeding crops: a portion remains in the soil and becomes very slowly available to growing plants. Hence under a judicious system of gardening there is a constant tendency towards improvement in soil fertility.

Acquired fertility may also well include the effects of tillage and cultivation, for by pulverising and mixing the soil we hasten the chemical changes of the organic matter through the agency of air, frost, and sunshine, and thus secure a greater amount of the natural fertility, which by these means becomes available for the building up of cell structure of the plants grown.

Different crops take away from the soil different quantities of plant food, and in different proportions; according to the amount of fertilising elements carried off the crop is said to be more or less exhausting to the soil. Some plants are especially rich in nitrogen, others in nitrogen and phosphoric acid, while others again are rich in potash or lime, and the system of manuring to be adopted must be governed by this fact as well as by the character of the soil and its condition of fertility.

This is one of the main reasons why the adoption of a proper system of rotation of crops even in the garden is advantageous; the same crop (say Potatoes, Cabbage, or Strawberries) grown for a number

of years on a piece of land will take away the same fertilising element; every year, thus easily reducing the contents of these in the soil to below a limit where profitable crops can be grown. Rotation of crops is also made important, and even essential, for other reasons, as the difference in the root system, time of active development and maturing of different crops, effect on the physical condition of the land, the case of keeping the land in good tilth and free from weeds.—J. J. WILLIS, *Harpden*.

The Vagaries of Seasons and Tomatoes.

TOMATOES, like Grapes, are now so universally grown, and are so greatly affected by the vagaries of each season, that an observant cultivator is continually noting new and interesting points bearing on their culture. As a rule one may invariably depend upon Tomatoes to give a good crop if a sound system is followed; but there are exceptions, and the most experienced grower—who by years of close study and practice has evolved a system which seems to have become an exact science—will occasionally find some knotty problems to solve.

As far as I have been able to gather from visits made to many establishments where the Love Apple is extensively grown, as well as from my own experience, the crop is not this year quite so satisfactory as last. During the early part of the season the very unfavourable weather prevented the plants from making their usual rapid progress. In some cases they became stunted, and the shoots somewhat thin at the points; in others the whole plant lacked the usual vigour. Where the system of planting out in the natural soil forming the borders is practised, after a few years this decrease in the vigour of the plants is not a matter for great surprise, as, unless the crop is changed, the soil becomes "Tomato sick." I have, however, noticed the same tendency this year in plants growing in soil which is renewed each year; the conclusion is therefore forced upon me that the climatic conditions of each season affect growth in a marked degree. This early stunting of the growth has also another marked effect which helps to check the plants still more—viz., it is often conducive to a heavy set at the base of the plants; and when the fruits are swelling the strain is so great that growth is

almost suspended till some of the fruits are cut, then more rapid progress is at once made. From whatever cause a check in growth may arise, the best means I have found of combating it is to feed the plants liberally. For this purpose some of the specially prepared Tomato manures are excellent. A mixture of two parts superphosphate and one of nitrate of soda, applied at the rate of 3 ozs. per square yard, answers splendidly in some soils, in others I find the best results are obtained by using the nitrate alone; soot water and liquid manure are at all times valuable stimulants to apply with the object of forcing growth, or assisting the plants when they are carrying heavy crops.

Plants growing in narrow borders, boxes, or pots also require widely different treatment in the matter of watering from those planted out. In the former case, if the soil is allowed to get overdry the flowers quickly droop and the plants are weakened; during bright, hot weather immense quantities of water are needed, and cultivators whose experience has been gained principally with Tomatoes planted out often err on the side of giving too little water to plants whose roots are confined to a small space. The management of the atmospheric conditions of Tomato houses is a matter which under some circumstances, needs more attention than it often receives. Where several



FIG. 34.—ODONTOGLOSSUM RAMOSISSIMUM.

rows of plants occupy one house, damping down should never be practised, if we except the excellent practice of sprinkling the plants for a few days after planting. On the other hand, in some structures damping the floors and stages at noon during bright weather is of great benefit to the plants. To instance a case bearing out this statement, let me mention the fact that I have one long house in which the plants never thrive satisfactorily during hot weather unless moisture is freely distributed on the floors and stages. This house is one, and the plants are growing in borders formed on the father a low wall, the hot water pipes are located. For side stages under which the plants have to be raised quite close to the unavoidable reasons the plants have to be raised quite close to the glass, and as the house gets exceedingly hot during bright weather, unless damping down is resorted to the leaves get thin, and often scorched. I have always been greatly opposed to the practice of damping Tomato houses, because a moist atmosphere favours the spread of fungoid diseases, but one has to be continually adapting their general practice to the requirements of special circumstances. And in the case just instanced nothing but good results followed, whereas in an ordinary Tomato house damping down might be attended with disastrous results, as the difficulty usually experienced is to keep the atmosphere dry enough.

During May and June that troublesome disease known as stripe gives cultivators in some districts a great deal of trouble. The first signs of it come in the form of thin dark streaks, which mark the stem just below the points; these streaks soon spread, and the stem get blackened all round, and the discolouration penetrates the tissues quite to the centre. The best way to deal with plants so affected is to pull them out, renew the soil, and replant. Plants only slightly attacked, however, grow quite out of the disease in time, and I can now point to a few plants which, although badly affected at one time, are now carrying good crops, and which show little trace of former disease beyond a few dark marks in the stem, and a thinness of foliage at that point. When the disease first appeared I dressed the border heavily with newly slaked lime, and eventually, after having procured some Veltha I applied that to the border. The preparation quickly had the effect of bringing the plants into a healthy condition, the leaves assuming a deep green colour. For various reasons I have not yet been able to give Veltha a thorough trial, as the beds and houses should have been dressed before the stock was planted, and diseased plants sprayed with emulsion; but judging by the satisfactory result of my imperfect experiment Veltha is, I think, destined to become a valuable asset in successful Tomato culture.—H. D.

Agapanthus umbellatus.

THIS is an imposing plant, especially when in flower. Strong, erect stems are thrown up, one from each matured crown. The first indication of flowering is the bold knob in the centre of the crown of leaves. The stem advances in length, and the knob increases in size, eventually bursting its outer covering or case, and the umbel of flowers immediately begins to develop blooms of a rich blue. The umbel or head is attractive and conspicuous. The plants are almost hardy, and splendidly adapted for growing in large pots or tubs in a conservatory, greenhouse, or outdoors in summer, where it is frequently employed as a bold and striking plant for decorating terrace steps and similar positions.

The Agapanthus only requires simple treatment, no heat beyond protection from hard frost, good soil, liberal root room, plenty of air and water, and stimulants when developing flowers. The propagation of the plant is effected chiefly by division and offsets, which may be detached from strong plants. The readiest manner of establishing plants is by division. Young stock in the early stages of growth only requires a light sandy soil, but when repotting into larger pots or placing in tubs to remain several years, a richer and stronger mixture should be prepared. The following ingredients form a suitable compost. Half-decayed strong loam chopped up roughly three parts, decomposed cow manure one part, with a little sand and charcoal. The roots are very strong and fleshy, hence when repotting it is desirable to give liberal shifts, unless the roots are materially reduced or division effected, when of course less room is needed. The roots always have a tendency to mat themselves round the drainage, so it is usually best to slice them off just above the layer of crocks. The base of the ball will then have free access to the fresh soil, and new fibres will quickly be produced. When draining the receptacles for the final potting, place the crocks carefully so that a small number will suffice, yet always have sufficient to drain away superfluous water.

During the period of growth and flowering water is required in liberal quantities, supplementing the applications after the flower spikes show with weak solutions of gnano, soot water, animal, and chemical manures. Any of the above will supply rich and nourishing stimulating food, capable of increasing the depth of colour in the

flowers. As all the flowers do not open at once those which are first past their best should be clipped off and not be allowed to form seed pods. A fair-sized plant with half a dozen spikes of bloom is a useful decorative plant at this season. The flower stems being strong and erect do not need support, but when growing too closely they ought to be spaced out with a few light stakes.—E. D. S.

London's Planes.

It was Leigh Hunt who, in asserting that it would be difficult to find a street in London that had not its tree or trees, spoke of the Metropolis as "leafy London." Had the expression been in particular reference to the magnificent avenue of Planes that adorns the Brunel's monumental Embankment from the Houses of Parliament in the west to Blackfriars Bridge in the east, nor, it may be affirmed, would have disputed it. In making reference to these Planes a few years ago, Sir Herbert Maxwell designated them as "London Pride," and if they differ in majesty from the plant generally known by that name, they have certainly more right to it if the title be strictly interpreted. There is probably not a single Londoner who is not inordinately proud of that splendid avenue, and who would not resent any remarks that might be construed as disparaging to it. Many persons will retain vivid recollections of the opening of the Embankment itself and of the planting on December 31st, 1868, of the first of those Planes (*Platanus orientalis acerifolia*) which were to form in later years the noblest boulevard in London.

This term "boulevard" it is true has become somewhat perverted from its original Parisian meaning; but used in the sense of a grand city avenue lined with trees it supplies an obvious deficiency in our own tongue. "Bulwark" and "boulevard" are in reality one and the same. In old Paris the boulevards were the fortifications, or bulwarks, and the equivalent of the old walls of the City of London. When the old walls and moat of Paris were abolished, some century and a half ago, they were not over-built, but turned into beautifully planted walks for the delectation of the citizens. Immediately before the Revolution these boulevards practically defined the limits of the city; but with the modern extension of streets and houses their original signification has been forgotten, as they have taken on more and more the character of mere urban thoroughfares, like our Embankment.

Amongst horticulturists of the present day there is probably none who knows more about the Embankment Planes than the veteran Mr. William Paul, V.M.H., who was, we believe, consulted by the late Mr. Alexander McKenzie as to the best trees for the purpose. The Tree of the Gods (*Ailantus glandulosa*) was mentioned, but the decision was eventually made in favour of the Plane, whose hard smooth leaves render it peculiarly adapted for throwing off the deleterious substances in the atmosphere, and which play sad havoc with Limes and others with rougher leafage. It may naturally be assumed that the magnificent Planes in Berkeley Square, the ancient specimen (said to have been planted immediately after the Great Fire, 1666) in Wood Street, the several in the grounds of Buckingham Palace and elsewhere, were taken as indicative of the suitability of the trees to the climate by Mr. McKenzie before the planting was commenced, and time has proved the wisdom of the choice. All have not grown alike, but, generally speaking, they have thriven most satisfactorily, and the time has now come when a certain amount of thinning and some substitutions have become essential to allow of the further development and expansion of the individuals.

As has been said, the planting commenced on December 31st, 1868, but when it was completed we have not been able to ascertain. Perhaps Mr. Paul will enlighten us on this point? When the avenue, broken only where absolutely necessary, such as for the bridges, was finished there were 541 trees, some of which have been removed by the London County Council, under whose supervision the trees now come. The Council's adviser saw, as every horticulturist and arboriculturist had seen, that the excellent progress made by the trees was becoming jeopardised by crowding, and it was resolved that each alternate tree should be removed. This, of course, was essential to maintain the avenue in its integrity, but it will obviously involve the removal of some excellent trees, and the retention for the moment of others that are inferior. Here, then, will come the substitutions, for where a bad

tree remains it will have to give place to a thoroughly good one. This excellent work was commenced a few winters ago, and is an operation of such magnitude that it will be a matter of several years before it reaches completion. When this happens, and especially if the remaining trees are provided with some new and thoroughly good soil, we shall see the Plane trees of the Thames Embankment again making an advance, and growing until the time may arrive when the whole work of thinning and substituting will have to be repeated in order to procure the necessary symmetry and convenience of disposition.

During the past few weeks, and even at the moment of writing, skilled observers have looked askance at the operations of a small army of navvies who, for the purpose of laying telephone wires, have been taking out deep trenches right up to the bole of many of these splendid trees. They have cut down to a depth of 6 or more feet, chopping

In reference to the Embankment Planes, it will doubtless prove interesting to quote from the *Journal of Horticulture* for January 14th, 1869. On page 27 of that issue the Editor says:—"On the evening of the last day of the past year, the first of the line of trees was planted that is to ornament the Thames Embankment between Westminster Bridge and the Temple. This line consists entirely of Planes (*Platanus acerifolia*), and the trees, being of good size, already produce a marked effect. They are from 12 to 15 feet high, with stout clean stems, and heads which, when the leaves are on, will even during the first summer furnish a line of 'greenery' pleasing to the eye of Londoners. The work has been entrusted to Mr. Alex. McKenzie, the skilful designer and superintendent of the Alexandra Park, and the common sense which prompted him to choose the Plane, in the face of many suggestions he received from those who fancied they knew something about



FIG. 35.—LONDON'S BOULEVARD OF PLANES.

large roots and small, irrespective of whether the process would prove detrimental to the trees or not, and have afterwards formed a bed of concrete upon which to place the pipes. Adjacent to the Temple Station, only a few weeks ago, we saw many roots ruthlessly severed, and it will be a matter for surprise if the trees do not suffer thereby, as the trenches were open during several days whilst London was sweltering beneath a scorching sun. Such acts should be reprehended; since it is nothing short of unjustifiable vandalism that these noble trees should be mutilated. Surely the London County Council could take steps to prevent what is little less than rank butchery? At the present time the workmen have crossed the Embankment opposite Brunel's statue, and are operating quite closely to the trees on the river side of the road, and will doubtless there perpetrate similar barbarities to those already cited between the railings of the Temple Gardens and the roadway.

the subject, will meet with general approval. There is no tree for large towns at all to equal the Plane. Those who are accustomed to traverse London have evidence of this every day; and if an example were needed of the rapidity of its growth in one of the most crowded of localities, and the most circumscribed of spaces, we could not furnish a better instance than that magnificent specimen now growing in Stationers' Hall Court, a region known only to the pure cockney and the 'Row boys.' That tree was planted by the present Mr. Greenhill, of the Stationers' Company, when he was a lad, and is little more than forty years old. Everybody should see that tree."

Probably every reader of our *Journal* has traversed the Thames Embankment, and admired its stately Planes; but they will nevertheless be interested in the illustration (fig. 35), which gives a bird's-eye view of the river and the trees as seen by the camera from Hungerford Bridge.

Mushrooms.

SUCCESS in the cultivation of these much-esteemed edibles depends in the first place upon the spawn, it being absolutely indispensable to have it of the very best description in an active state, and such being the case it is well to test its quality when it comes to hand by making up a small bed or a box so that it may with safety be used for spawning a large bed, from which the supplies are to be drawn for a considerable time. If this were done much disappointment would be avoided, as there is nothing so aggravating as to make up a bed and after waiting weeks or months find that it is merely a waste of material, time, and labour.

When the spawn is received it should be stored where it will keep well. To insure this one must select a moderately dry place, with a temperature of about 50°, packing it closely together until it is wanted for use, when it will have to be broken into pieces about 2 inches in diameter, and only those pieces which contain spawn in a proper state should be used in the beds. If the spawn were given this scrutiny and treatment failures would be avoided to a very great extent; indeed I am persuaded that more failures in Mushroom growing are attributable to using spawn in a weak or inert condition than to any other cause. The spawn may have been too highly developed in the bricks and is simply spent, instead of being a mass of small threads as large as fine cotton, and the white mouldiness almost absent. It is of no use at all in that state, as it contains no active germs to develop as mycelium.

The Advantage of Fresh Spawn.

Spawn is also spoiled after being received through being kept too moist and too warm so as to cause the development of the mycelium, consequently it is spent in the bricks before it is inserted in the beds; therefore it should be kept dry and cool, yet safe from frost, though frost is not injurious when the spawn is dry. It is also a bad plan to have spawn for a long time in stock. I find it is best fresh, therefore a supply ought only to be purchased sufficient for the season, and it ought to be of the current year's make—securing it early in August.

Mushrooms are a natural crop in August and September, varied by being earlier and later in pastures or places where cattle have been kept, and as the supply at the usual Mushroom season is generally adequate for ordinary requirements, we may pass over that period and face the fact that for the remainder of the year the supply is produced by cultivation. The cultivation of Mushrooms has of late years been considerably simplified, which is in a great measure due to the impetus given by the timely appearance of "Mushrooms for the Million."

The alteration more particularly applies to the means and preparation of the materials. Formerly much time and trouble were expended on the material in order to get it into a proper condition—to prolong the heat in a subdued form, which as a matter of course from the frequent turnings and consequent fermentations caused its exhaustion by the time it was considered fit to make up into the beds. This practice has been dispensed with in a great measure by many growers. The manure is cleared of all the long straw, and being somewhat light or springy a little fresh turfy loam broken up roughly added gives it solidity, and insures it being formed into a firm mass, besides preventing overheating and drying. Thrown in a heap for two or three days it will heat, and should be put in the beds 18 inches deep.

Spawning the Bed.

When the heat is sufficient, or in about three days, it should be trodden or beaten down firmly, adding more if necessary to make it of the requisite depth or 18 inches, and a thermometer with the bulb 3 inches beneath the surface will indicate the temperature. If it rise above 90°, as it will in a week, wait until it recedes to 90°, and then insert the spawn 9 inches apart, just beneath the surface, beating down so as to firm the spawn well in the material. In the course of a week or ten days the bed should be earthed, but if the heat declines rapidly this may be done soon after, or at the time of inserting the spawn.

Soiling.

I put on the soil 3 inches thick in the loose state, which, when well beaten down, is not more than 1½ to 2 inches in thickness, good turfy loam. If dry it must be moistened so as to insure its being firm, making the surface smooth with the back of a spade. To prevent it becoming dry and cracking a layer of hay may be placed on the surface about 6 inches thick, and allowed to remain until the Mushrooms appear, as they will in from six to eight weeks from the time of spawning, though I have had them in a month from spawning, but such is not usual, when the hay must be removed altogether. The soil should be kept uniformly moist, avoiding over-watering or its opposite extreme. It is hardly necessary to state that the place wherein the bed is made should be thoroughly cleansed, every means being taken to destroy woodlice and slugs, which will save much after-trouble.

In order to have a supply of Mushrooms by the time the outdoor

supplies are over a bed should be made ready for spawning early in September, and successional beds will need to be made at intervals of a month or six weeks according to means and requirements. A temperature of 50° is suitable for Mushrooms, and the nearer it is kept between that and 55° the more fleshy will be the produce, and the better the crop.—G.

Preparing for Spring Bedding.

THROUGHOUT the changing seasons of the year the brains and hands of the gardener have to be kept in a constant state of activity, for success does not depend alone upon ability to deal successfully with the requirements and difficulties of the hour, but also upon the exercise of sound judgment in "looking ahead." Thus while summer bedding is in the zenith of its beauty steps must be taken to lay the foundation for an equally successful display in spring. Our motto must be "Go forward," or we shall assuredly retrograde. By bearing these things in mind we shall see the more forcibly how necessary it is at the present time to take up in earnest the work of preparing for spring bedding.

One of the first matters to be attended to in connection with this work is the sowing of Pansy seeds. A large stock of plants is so easily raised, and the flowers produced so showy and varied, that Pansies are quite indispensable for providing a spring and early summer display in the flower garden. At one time I made a practice of sowing the first week in July, but I have found this to be too early, as the plants grow very large before autumn, and exhaust themselves to a great extent by flowering in September; even if the flowers are kept constantly removed the shoots grow long, and are often killed during a severe winter. What we want is sturdy plants with shoots 2 or 3 inches in length by planting-out time, which operation I like to perform about the end of October, so that they become well established before dry weather sets in in spring. I usually sow in rows on a south or west border, and when the seedlings are large enough prick out 6 inches apart in an open situation; sturdy plants are thus obtained, which will grow and flower early in the spring months. In regard to varieties, it is only necessary to say that every firm of repute will supply seed of their own strains, which may be depended upon to produce something good.

Lasthenia californica is another excellent plant to sow at the present time in order to secure good plants for spring bedding. It seems to be but little grown, and I strongly recommend it to all who require a most attractive yellow flowering plant, growing from 9 inches to a foot in height. Our own stock of *Silene pendula compacta* and *alba* has been sown a couple of weeks, with a view to get it to flower as early as possible, but it is not yet too late to sow it. *Aubrietias*, *Iberis sempervirens*, and *Polyanthuses* were sown at the end of June, and are now ready for pricking out; they will then only require to be kept watered till established, and free from weeds till planting out time.

Wallflowers that were pricked out some time ago should be looked over, and if they show signs of becoming crowded the alternate plants ought to be lifted with balls of earth attached and transferred to other quarters. It is only by giving plenty of room that dwarf sturdy plants can be obtained, and leggy Wallflowers are an abhorrence to all good gardeners.

Violas must be taken in hand in earnest and propagated as fast as good cuttings can be obtained; but it is better to wait a week or two longer and secure short-jointed young shoots which spring from the base of the plant than to insert the long-jointed ones that have been flowering throughout the spring and summer. I have met with many gardeners who seem to take a great deal of trouble with *Viola* cuttings and then meet with only moderate success. The simple plan I follow gives but little trouble, and answers perfectly. My cuttings are always inserted in the same position—viz., on a border in front of a south wall. The ground first receives a coating of good leaf soil; this is dug in and the surface is trodden firmly, raked level, and given a thin coating of road sand. The cuttings put in vary in length from 1 to 1½ inch; these are inserted 2 inches apart, so that those left till spring do not become crowded. I do not shade in any way, but keep the soil constantly moist, and nearly every cutting roots. I am convinced that one of the principal reasons why many fail to root their cuttings is that they allow the surface soil to become too dry before water is given. The strongest of our plants I place in the flower beds in November, but the weaker ones remain undisturbed till February or March.

This year, when doing the summer bedding, we lifted any *Violas* that showed signs of exhaustion. What good cuttings were thus obtained were inserted in boxes; these have rooted, and are now growing freely, and in a few days I hope to have them planted in an open piece of ground about 6 inches apart. By keeping the flowers picked off we shall obtain plants that will flower very early in the spring.—H.

NOTES & NOTICES

Recent Weather in London.—A considerable amount of rain has fallen in London during the past few days. On Sunday evening there was a thunderstorm accompanied with torrential rain; the air subsequently was much cooler. Unfortunately for the holiday makers Monday proved to be a thoroughly wet day. There were heavy showers on Tuesday, and Wednesday opened dull and cool.

Garden Produce per Rail.—We are informed the number of small parcels of market garden and farm produce carried by the Great Eastern Railway Company during the first half of the present year was 77,800. This shows a reduction of 1100, as compared with the same period last year, the number then recorded being 78,900.

Gray's Inn Gardens.—The Benchers of Gray's Inn have resolved that from August 1st until September 30th inclusive, children (boys over ten years of age excepted) be admitted as usual to the gardens without orders between 6 and 8 P.M., wet days excepted. This order, which has been passed annually since 1889, is intended to benefit children of the very poorest class.

The Gale in South Lincolnshire.—A strong gale prevailed in South Lincolnshire during the greater part of Friday. Much damage was done in the orchards, where there is this season abundance of fruit. Rain fell heavily at intervals, and harvest operations were stopped. Agriculturists, however, state that the rain was much needed, and that root and other crops will greatly benefit by it.

Waterlow Park.—The statue of Sir Sydney Waterlow was unveiled by Princess Louise in Waterlow Park, Highgate, a week ago. The Duke of Argyll, responding to a vote of thanks to the Princess, remarked that in erecting the statue to a man during his lifetime they were only following the classical method. His Grace concluded by expressing the hope that the statue and park would long remain to mark the generosity and public spirit of the donor.

Carshalton Show.—The annual exhibition of the Beddington and Carshalton Horticultural Society was held on Bank Holiday, under most unfavourable climatal conditions. As usual, the show, from a horticultural point of view, was most excellent, both the cottagers' and gardeners' section being admirably filled. The vegetables were of exceptionally good quality, particularly in the open class; that is judged by points, the prizes being awarded on an exact value per point. The arrangements were skilfully made and carried out under the superintendence of Mr. C. F. Hutchings, the secretary.

The Postmen's Park.—There was recently declared open to the public for ever an important addition to that oasis in the City known as the Postmen's Park. This new portion, which has a large frontage to Little Britain, and gives much-needed extra space, contains a cloister, erected by Mr. G. F. Watts, R.A., for the commemoration of heroes in humble life. Prior to the ceremony proper there was a short service at St. Botolph's, Aldersgate, when the Bishop of London delivered an address, in which he urged the necessity for open spaces in the interests of public welfare. Standing near an ancient sundial, the Lord Mayor declared the space open. He remarked that it was unique, as containing a cloister commemorative of heroism in humble life, which had been called into being by a spirit of self-denial, by a love of one's fellow.

Royal Agricultural Show.—The Royal Agricultural Society has considered whether it would not be better to acquire a permanent ground and hold the annual show every year in London. Every spring the Society has to repeat the costly operation of building shedding for the exhibits and laying down water pipes through the show yard, and the whole results of its work are dependent upon the continuance for five days of reasonably fine weather. Upon this there has been a division of opinion among the Council. Among those who favoured the metropolitan idea were the Earl of Coventry, the Hon. Cecil Parker, Sir Walter Gilbey, Sir Massey Lopes, and the Earl of Feversham; while many men of equal weight supported a provincial show yard. The present position of the matter is that a site near the capital is decided upon, and that several have been informally inspected, but that none has yet been chosen.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, August 14th, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. A lecture on "Melons" will be given by Mr. A. Pettigrew, at three o'clock.

London Parks and Open Spaces.—Messrs. Wm. Cutbush and Son inform us that they have been favoured with the orders from the First Commissioners of her Majesty's Works, Westminster, and the London County Council, for the supply of the whole of the bulbs required this autumn for the London parks and open spaces.

Gardening Appointments.—Mr. H. Lydiatt has succeeded Mr. T. Young as head-gardener at Warren Tower, Newmarket. Mr. E. Harriess, who has for the past two and a half years been general foreman at Lockinge Park, has been appointed to succeed Mr. H. Thomas as foreman of the forcing department at the Royal Gardens, Windsor.

School of Handicraft, Chertsey.—The annual outing of the garden boys and staff took place on July 19th, when, accompanied by Mr. A. J. Brown, gardener and bailiff, they proceeded with the school band for a trip up the river on a steam launch, which they much enjoyed, and their thanks are especially due to Mr. H. Veitch, Sutton and Sons, Hurst & Son, Cooper, Taber & Co., and Watkin and Simpson, and Allnut Bros., also Mr. Fletcher, for providing them with the means.

Justifiable Vandalism.—What may be termed an act of justifiable vandalism is being carried out by the Islington Vestry at Hornsey Rise, a steep ascent to Crouch End railway station. Four gardens jutted out into the roadway, making it so narrow that a foot-path on that side was impossible. In carrying out the improvement it was necessary to cut off the gardens and to fell some fine old trees, whose boughs mingled with those on the other side of the thoroughfare. On Saturday, the last tree, a stately Elm, was found to contain a wood pigeon's nest, and one of the old birds had to be literally driven from the nest, where it remained while the giant was dismembered of its largest boughs before being felled.

A Retrograde Policy.—Mr. Edward Owen Greening, of the National Co-operative Festival and One and All Flower Show, writes us an earnest appeal against the new policy of the railway companies, which are this year withdrawing privileges from choir singers, musicians, &c., raising excursion rates from the provinces all round, and withdrawing to a great extent Saturday to Monday excursions. He states that this policy is likely to cripple the development of a taste for choral music and gardening amongst the masses of the people—tastes which have been greatly stimulated by the popular Festivals at the Crystal Palace. Mr. Greening sends us photographs of popular festivals at the Palace before and since the new restrictions. The contrast is certainly very striking and suggestive.

The Liability of Bee-keepers.—At Basingstoke County Court on Friday Judge Gye dealt with a case affecting the liability of bee-keepers. John Butter, a wood dealer, sued the village postmaster, Mr. Longley, for the recovery of part of the value of an old mare which the defendant's bees stung to death; also 10s. on account of pain from bee stings suffered by plaintiff; 10s. for loss of use of part of a field adjoining the postmaster's garden, where the plaintiff's labourers could not work owing to the bees; and 20s. for extra labour through having to make a hayrick in another position. It was suggested on the defendant's behalf that some other person's bees were at fault, but the plaintiff and his witnesses established to his Honour's satisfaction the fact that the bees came from the defendant's hives. Judge Gye, in giving judgment for the amount claimed, said that a bee-keeper kept bees at his own risk, and if they did damage he was liable.

In the Market.—There is an abnormally large quantity of Spanish Onions coming into Covent Garden at present, and very small prices are received for them. From 4s. 3d. to 4s. 6d. is being paid for cases of 1½ cwt. Following up a complaint made recently against the railway charges on Grapes as compared with steamer charges, it can hardly be without interest to provincial consumers to know that while these cases cost only about 6d. per freight from Spain, their carriage for fifty miles from London by rail is about 1s. 6d. France, Italy, and Spain are pouring in a variety and abundance of fruit and vegetables. Bordeaux Apples have come in; Pears and Plums from the same source are in overwhelming abundance, as the fruiterers' stalls in all parts of London daily testify. Grapes and Melons from Spain, and Gages and Tomatoes from Italy form the chief part of the wares passing under the hammer.

Hailstorms and the French Vineyards.—It is reported that violent hailstorms have done much damage to French vineyards and orchards in the Valence district. The total losses are estimated at £40,000.

East Anglian Horticultural Club.—On the occasion of the annual outing of the members of this club a visit was paid to The Pleasaunce, Overstrand, near Cromer. The party was met and welcomed by Lord Battersea. His lordship personally conducted the party round, and explained as they went the most interesting points. Pergolas of Laburnum, Clematis, and Roses were remarked and admired, and an exceptionally delightful time was spent.

Hornsey Horticultural Society.—The Hornsey Horticultural and Allotments Association held its fifth annual exhibition of flowers, fruit and vegetables on Saturday. Mainly owing to the efforts of the District Council, Hornsey now contains twenty-two acres of allotments held by 272 tenants. Some sixty tenants, however, will shortly be dispossessed, because the New River Company require the land for filter beds. Mr. H. C. Stephens, M.P. for Hornsey, opened the exhibition. The provision of allotments was wise, he said. Good gardeners were generally good men, fond of their families, steady and quiet. He was sorry some of them were going to lose their allotments, which were only leasehold. They should urge the District Council to acquire a freehold site before the builder made this impossible.

Hanley Horticultural Fete.—A special meeting of the Town Council and those interested in the organisation of the horticultural fête was held in the Town Hall recently, when the Mayor (Mr. G. Ellis) presided. The report of the Finance Committee having been adopted, votes of thanks were accorded to Lady Angela Forbes, who opened the fête, the Mayor and Mayoress, the judges, and others who assisted in making the fête a success. Alderman Cooke presented details of expenses in connection with the fête. The income last year was £2505 17s. 7d., and the expenditure £1876 6s. 2d., leaving a profit of £629 11s. 5d. This year the total receipts were £2644 4s. 2d., and the expenditure £1843 10s. 9d., leaving a balance in hand of £800 15s. 5d. There might be a few more accounts to come in which would not exceed £20.

West Derby Horticultural Society.—The show on Monday, August 6th, was of special excellence throughout. Mr. Geo. Osborne, gardener to Dr. Duffus, West Derby, richly deserved the first position for a tastefully arranged group of plants, also for twelve grand bunches of herbaceous flowers, twelve spikes of Gladioli, twelve bunches Carnations or Picotees, Stocks, shower bouquet, and for twelve neat and clean varieties of vegetables; Mr. C. Gore, gardener to Mrs. Withers, was a very excellent second. Mr. H. Ogden followed in the group classes, winning all the three Dahlia classes and that for Tea Roses. Mr. Bache, gardener to Mrs. Bencke, scored distinct successes with four stove and greenhouse plants, a well grown Allamanda Hendersoni, and the too seldom seen Hedychium Gardnerianum. His six varieties of vegetables were free from coarseness, as were his dishes of Peas. No one could possibly grudge the success gained by Mr. W. Cross, gardener to Miss Wright, who secured every class for fruit. Mr. Bache was an excellent follower in these classes. Mr. Charles Gore was a close runner up in several classes, and won with H.P. Roses. Such a comprehensive schedule deserved the large number of entries gained.

Liverpool Amateur Gardeners' Association.—The finest August display ever held under the auspices of the society was opened on Thursday evening last. The great feature was the table decorations, competed for, for the first time in the history of the society, substantial prizes being kindly given by Mr. C. Hacking of Formby. Three competed, the first prize being a handsome design in mauve and white Sweet Peas, Gypsophila, Smilax, and Asparagus Sprengeri. The winner was Mrs. Stevenson of Pembroke Place, Liverpool, who also received the association's certificate. Miss Hunter came a close second with Roses and Sweet Peas. The double Begonias from Mr. Hoskyn, and singles from Mr. A. W. Ardran, were of remarkable excellence. Mr. D. W. Cangleby exhibited three splendid Gladioli, also coming second to Mr. Butcher with Carnations. Mr. A. W. Ardran had the best Orchid in bloom, a nice piece of Odontoglossum cordatum; Mr. Robins winning the President's prize for cut flowers. A vote of sympathy was passed to the secretary, Mr. McGregor, and Mrs. McGregor, in the keen loss they have sustained by the death of their son, a promising young gentleman only twenty-six years of age. —R. P. R.

July Weather at Dowlais.—Rainfall 2.39 inches, which fell on eleven days. Greatest fall 0.92 inch on the 31st; for the same period 1899, 0.90 on nine days. Temperatures: Mean maximum, 71.39°; highest reading, 87° on the 19th; mean minimum, 48.36°; lowest reading, 37° on the 7th; highest reading in the sun 107° on the 19th. There were three sunless days. The prevailing direction of the wind was S.W. It was very cold the first week and last few days of the month. Thunder and lightning on the 12th, 27th, and 29th, but not lasting very long.—WM. MABBOTT.

Sussex Weather.—The total rainfall at Abbots Leigh, Haywards Heath, for the past month was 0.84 inch, being 1.87 inch below the average. The heaviest fall was 0.33 inch, on the 2nd. Rain fell on five days. The maximum temperature was 91°, on the 16th; the minimum 40°, on the 8th. Mean maximum 78.09°, mean minimum 57.11°; mean temperature 67.60°, which is 4.72° above the average. A hot dry month, too much so for fruit trees and growing crops. The thunder of the 27th did not bring us much rain, but it is cooler, and the atmosphere was exhasting on vegetation. More rain much wanted.—R. I.

Weather at Stockton-on-Tees.—I am sending you a record of the amount of rainfall measured here for the twenty-four hours ending Saturday, 4th inst., 9 A.M., thinking it may be of some interest for publication, and also be the means of bringing to notice if there has ever been anything heavier in the way of rainfall previously registered in this country for twenty-four hours; to me it is quite unprecedented. Actual amount for the twenty-four hours, 3.85 inches, between 9 A.M. and 5 P.M. on Friday, when the storm was at its worst, I measured exactly 2½ inches. I need hardly say, seeing the rain was accompanied by a N.E. gale of wind, and that it rained and blew persistently for twenty hours, that the amount of damage done is almost indescribable. Nearly all things in the gardens have suffered terribly, and the corn crops in this district are levelled to the ground.—H. E. GRIBBLE, Wynyard Park, Stockton-on-Tees.

July Weather at Belvoir Castle.—The wind was in a westerly direction twenty-two days. The total rainfall was 1.59 inch, which fell on eleven days, and is 1.23 inch below the average for the month. The greatest daily fall was 0.54 inch on the 20th. Barometer (corrected and reduced): Highest reading, 30.273 inches on the 8th at 9 A.M.; lowest, 29.556 inches on the 1st at 9 A.M. Thermometers: Highest in the shade 87° on the 19th, lowest 43° on the 8th; mean of daily maxima 74.03°, mean of daily minima 54.03°. Mean temperature of the month 64.03°; lowest on the grass 44°, on the 7th, 15th, and 18th; highest in the sun 137° on the 25th; mean temperature of the earth at 3 feet, 60.74°. Total sunshine 258 hours 50 minutes (this is 66 hours 8 minutes above the average, and is the highest amount recorded for one month since the instrument was erected in 1892). There were no sunless days. The above mean temperature for the month is the highest recorded here for any month since August 1893, when it was slightly exceeded. The mean temperature of the earth was exceeded in August 1899 (62.19°) but not at any other time during the past seven years.—W. H. DIVERS.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900. July and August.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
				deg.	deg.					
Sunday.. 29	S.W.	deg. 65.7	deg. 60.5	deg. 73.2	deg. 57.4	0.09	deg. 67.9	deg. 66.2	deg. 61.2	deg. 50.4
Monday.. 30	W.N.W.	66.1	57.6	73.4	56.7	—	67.4	65.7	61.3	51.8
Tuesday 31	W.N.W.	68.0	60.5	76.2	54.9	—	66.9	65.4	61.3	45.2
Wed'sday 1	S.W.	63.0	59.9	67.2	60.8	0.48	67.2	65.2	61.4	56.2
Thursday 2	W.S.W.	63.8	56.9	70.8	53.9	—	64.9	64.6	61.4	49.3
Friday .. 3	S.S.E.	61.8	59.2	68.0	58.2	0.49	65.2	64.2	61.2	56.7
Saturday 4	W.N.W.	58.4	50.8	64.8	52.3	0.01	62.3	63.8	61.2	50.9
MEANS ..		63.8	57.9	70.5	56.3	Total 1.07	66.0	65.0	61.3	51.5

The temperature during the past week has been much lower than that of the previous one, and dull cold weather is again prevailing. A heavy gale raged for the greater part of the day and night of the 3rd inst.



Apple Early Strawberry.

SOME ten years back Mr. James Walker, of Narciss fame, was with me in our nurseries, and was greatly taken with the bright scarlet fruit of this variety. But alas! beauty was only skin deep, and both he and myself had reason to alter our opinion, for it proved a poor bearer. The quality was third-rate, and the fruits are very liable to spot, so that it has never been propagated here. Had it been a heavy regular bearer, it would have "done" for the market men. There is also Summer Strawberry, a striped flattish fruit, but quite second-rate. Early Strawberry is small and pointed, with a very long stalk. It came, I think, originally from Sawbridgeworth, and promised well. The growth is thin and upright.—GEO. BUNYARD, *Maidstone*.

Exhibition Classes for Scented Roses and Carnations.

Ap[ro]pos of the exhibition classification of Roses and Carnations, it occurred to me when inspecting these flowers at the recent shows held at Birmingham, that in addition to those supplementary classes which have been introduced of late years beyond the old stereotyped forms, prizes might well be offered for collections of perfumed varieties. Scent, of course, is an additional virtue in a beautiful flower, and such an innovation would, I believe, be appreciated by would-be amateur purchasers of scented blooms. The good old Clove Carnation might well be taken as the standard for scent in the Carnation and Picotee class, and for Tea-scented Roses the old *Devoniensis*, for instance, might be selected; while for other varieties the old Cabbage Rose (*Rosa centifolia*) could be selected. There may, of course, be others equally suitable for the purpose indicated, but these occur to my mind at the moment.—W. G.

A Farewell to the Auricula.

PARTINGS have always a touch of melancholy about them, and when we have no hope of again seeing those from whom we part an additional dash of sadness is the result. Now if anyone has read the papers which from time to time I have written in the *Journal*, they will remember how long and how strong has been my affection for the Auricula. It has ever seemed to me to take the highest place in florists' flowers; and when we remember from what it originated, I think we may consider a perfect green edged Auricula is the highest achievement of horticultural skill. Moreover, there has always been a sort of personal interest in the plant. It is not like other florist flowers, of which a collection is grown for a time, the greater number of which are discarded because other and better flowers of the class have been raised; but with the Auricula, the plants of forty or fifty years ago still hold their place in our collections. No one, for instance, of our recent raisers—few alas! in number—has given us a flower to equal George Lightbody amongst the grey edges, or Prince of Greens amongst the green edges, although, perhaps, neither of these flowers is absolutely perfect in the florists' eyes.

As far as my own taste is concerned I think I may say that the flower has held the strongest place in my affections. From my very earliest horticultural days I have loved and cherished it and cultivated it under very different circumstances. At one time I have had flourishing collections, and at another my collection has been very much reduced by some untoward circumstance. I remember once for instance (when my plants could all be put into a small frame) I had to leave home, and left them in charge of an old man who *pretended* to look after my garden, and gave him, as I thought, very plain directions as to what he was to do, or rather not to do; but when on my return I went to look at them I found that instead of giving them air, as I told him to do, he kept the frames shut close, and as the weather had been tolerably warm and sunshiny I found the plants looking like pieces of parchment. By the kindness of friends I partially recovered my losses, and for the last thirty years I have grown them with a good degree of pleasure and comfort. Latterly that pleasure has to a great extent ceased.

I need hardly say that the flower is one that requires a sharp and critical eye, and so when my eyesight failed, and I could not readily distinguish the flowers, I thought it was time to give them up; and as there happened to be in my neighbourhood a lady who is very much

interested in them, and who has a very experienced gardener in the person of the son of one of Mr. Charles Turner's most experienced foremen, it was a great satisfaction to me when she expressed her wish to become their possessor. Hence a few weeks ago they all passed into her keeping, and the small collection has not been dispersed.

As I saw them being taken away I felt that a strong link with the past was broken; I knew it could not be helped, and so I have quietly acquiesced in the inevitable, and thus ends a long acquaintance of nearly seventy years. This, like all acquaintances, has given me times of pleasure, and has sometimes been associated with much anxiety. Of course I shall not cease to have an interest in the flower, but I do not think that the prospects of the Auricula are very bright. I fear there is not much hope of its regaining the position which we enthusiasts would wish to see it occupy; and so I regretfully bid farewell to what has for many years been a source of great enjoyment to me.—D., *Deal*.

Failure of a Strawberry Crop.

REPORT says that the Strawberry crop this season throughout the country was of an unusually variable character, particularly in the Midlands. Upon a somewhat extensive market garden belonging to Mr. H. Nicholls, who owns three large farms near Kidderminster, about 50 acres of Strawberry plants, comprising chiefly Royal Sovereign, Sir Joseph Paxton, Latest of All, and Monarch, of which latter Mr. Nicholls has formed a high opinion both as to its flavour and heavy bearing qualities, insomuch that he purposes greatly extending its cultivation, the whole of the sorts failed to produce a good crop of ripened fruit, a very large proportion having failed to reach the swelling process prior to colouring—owing to some inexplicable cause, unless it were the prolonged dry weather. This resulted in a deficiency of crop to nearly £600 in value. Mr. Nicholls remarked that as a cultivator of Hops, Peas, and Potatoes, as well as Strawberries, he never experienced such a failure of the latter before. It will, however, not deter him from extending the cultivation of the Strawberry, especially of Royal Sovereign and Monarch.—W. G.

Stable Manure.

NITROGEN exists to a greater or lesser extent in what we name "garden manures," but it is only in manures that contain much pure droppings, and which have been carefully made and protected, that it exists to any extent worth mentioning. Even good leaf soil seldom contains a quarter per cent. of nitrogen, and an ordinary sample of farmyard manure gives something like a half per cent. When properly made and cared for, manure containing even more than the usual quantity of straw will often contain $1\frac{1}{2}$ per cent., or even more, and is, of course, three times the value of that only containing half per cent.

Stableyard manure from stables where horses are "hard fed," and where abundance of straw is used, when thrown together in a heap heats with extreme violence, and this causes "firing," or "fire-fanging" as it is called in different parts of the country. This excessive heat drives off the ammonia as fast as it forms into the air, and the residue is of very little value. That which gave it its value is gone; "its spirit has fled." When, on the other hand, the heap is made thoroughly moist, but not wet, with urine preferably, and occasionally turned to prevent it heating too much, the ammonia formed is absorbed by the mass, and in time becomes converted into nitric acid. Even when this is done it is frequently lost. During the fermentation organic acids (humic, ulmic, carbonic) are formed and combined with the ammonia. The resulting salts are very soluble and are easily washed away.

Indeed, there are few even well-cared-for manure heaps from which a rich brown liquid may not be seen draining away. This liquid is largely impregnated with the valuable nitrogen in different forms. Heaps of manure spread thinly, especially in wet districts, frequently have all that is worth retaining washed out of them by rain. Careful building will reduce this waste to a minimum, but thatching, covering with soil placed ridge fashion, or placing under cover is better still. Manure so managed is at least worth double that which is first "fired" and then "washed."

Urine is especially rich in nitrogen. Of course the bulk of urine is water, but when pure a ton of it is worth from two to three times as much as an equal amount of ordinary manure, even though it is deficient in phosphoric anhydride. The nitrogen in urine is present in the form of urea, which is a substance as valuable as ammonia. It is soluble in water, cannot be precipitated by ordinary means, and can be utilised at once by plants instead of requiring to be converted into nitric acid, as ammonia has, although it also assumes that form. It is a very different substance from ammonia, but is readily converted into it by fermentation.—F.

Water Lilies at Kew.

TAKING into consideration the many other attractions at Kew it is, perhaps, a little surprising to find with what favour the Water Lily house is regarded. Visitors to Kew, it is very apparent, are not more struck with the gaudy bedding outside the Palm house than with the more refined beauty of the Water Lilies. People press in to see these plants, and are keen in expressing their disappointment or appreciation of the flowers that are expanded. The Water Lily house should prove one of the most interesting structures in the gardens, for in addition to the splendid water garden there is a collection of plants of really surprising diversity and interest on the roof.

The Water Lily house is a most successful instance of the use of the art which conceals art. The effect is light and pretty, the plants have the appearance of being happily placed and healthily grown, with a judicious blend of foliage, flower, and fruit, of water plants, bog plants, curiosities of vegetable life, and of economic use.

Entering the house by the porch opposite the Palm house the floriferous Leadwort, *Plumbago capensis*, first takes the eye, and inside handsome Musas, with their stems in beds of bright Balsams, occupy the left hand border. On the roof is a large plant of *Bougainvillea spectabilis*, and trained up wires festooning the inner arch of the porch are plants of *Manettia bicolor*, spotted with its small bright red tubular flower, tipped with intense yellow. Once beyond the porch the tank and its contents will draw the attention. This roomy structure, 2 feet deep by 36 in diameter, is warmed by two rows of pipes, and gives accommodation to a splendid collection of *Nymphæas*, which most of them are grown in large pots standing on a leaden bottom. In the summer the heat of the water is maintained at 70° Fahr.

The first *Nymphæa* seen will doubtless be *N. Laydekeri*, with its very beautiful pink petals which deepen in depth of tone with the age of the flower. These float among small leaves 3 to 5 inches across. *N. gigantea*, *N. Lotus* var. *devoniensis*, *N. stellata* v. *scutifolia*, and *N. Ortgiesiana* occupy a large part of the surface. *N. tuberosa* v. *flavescens*, a beautiful little plant, with leaves only 4 inches in diameter, and flowers deepening from the pale sulphur of the outer sepals through all delicate gradations of primrose to the full Indian yellow of the stamens, has a choicely pure effect. If the day be cloudy *N. Deari* may be found still open, though it is seldom found expanded after 10 A.M.

That most graceful and charming plant *Nelumbium speciosum* will be found in the triangular corner tanks, associated with another fore-shore plant, *Limnocharis Plumieri*, whose fleshy heart-shaped leaves, borne up on stout petioles, are exactly the same colour and texture as the Sacred Bean Lily. The flowers of the *Limnocharis* are all on tall spikes, and of a low toned yellow deepening to the centre. The *Nelumbium* is also grown in pots, and interspersed with other foliage and flowering plants round the verge of the central tank. Opposite the door, on the far side, is a thicket of the ancient Paper Reed, *Cyperus papyrus*; and close to it *Hemigraphis colorata*, with spikes of orange flowers; a strong plant of the Batavian Sugarcane, *Saccharum violaceum*; a clump of *Cyclanthus cristatus*, 5 feet high by 7 feet through, with a growth like an *Aspidistra*; several *Hedychiums*—*H. coronarium*, with large heavily scented white flowers; *Sagittaria montevidensis*, having tall sagittate leaves and three-petalled flowers of a delicate creamy white with a yellow eye, on which is a rich spot of purple red. The domestic Rice, *Oryza sativa*, in fruit, grows modestly near a fine root of *Aorostichum aureum*, which represents the Fern family.

The roof will be found a happy hunting place for the lovers of climbers and trailing plants, the species of tender tropical origin are sufficient to defy enumeration. If all else is passed the hairy Wax Gourd, *Benincasia cereifera*, will be seen, with its thick white fruit 18 inches long. The delicately pretty *Momordica charantia*, with its armed yellow capsules which split and disclose deep red seed; the Snake Gourd, *Trichosanthes anguina*, its fruit deepening in intensity of colour from dark green to orange red; several *Cucumises* (*Luffas*) help to furnish the rafters. There is a grand *Solanum* with clusters of large purple flowers, *S. Wendlandi* and two others of the genus, *S. Seaforthianum* with Jasmine-like leaves, and *S. pensile*, with thick clusters of deeper purple. *Allamanda Shotti* still flourishes on the opposite side, several plants of *Aristolochia gigas*, of *Passifloras*, *Bignonias*, and *Ipomæas* are mixed with the Gourds.

Clitoria ternata is interesting, as showing the hugely developed

blue keel and wings concealing the standard. A grand plant of *Ipomæa* (*Batatas*) *paniculata* is employed to twine about the iron railings which contains the tank. We have never known a time when there has been none of its widely expanded flattened bells. The two honey glands just below the calyx glisten with nectar. Among the smaller occupants of the border are several Sensitive Plants, and that intensely red flower the *Scutellaria coccinea*. In the lake near by on the northern side is an enclosed space, in which the student of the *Nymphæas* will find many of the hardier species. In the larger lake in the arboretum are some grand groups of the English forms now in full bloom.

In elucidation of the foregoing description we reproduce, by kind permission of Mr. E. J. Wallis, Galveston Road, West Hill, Wandsworth, an effective illustration. It forms part of the Kew series of photographs which are published and sold in one volume by Mr. Wallis at the Royal Gardens, and which bears upon it the preface and *imprimatur* of the Director, Sir W. Thistleton Dyer. His eulogium of the work is amply justified, as it presents many charming aspects of this our unrivalled institution. No person who visits Kew should fail to take away so pleasing and portable a souvenir of the beauties presented by the Gardens at various seasons, thirty phases of which are contained in this handsome publication of Mr. Wallis.—A.

Notes on Figs.

THE earliest forced trees in pots should be examined for red spider and scale as soon as the second crop is cleared, having recourse to cleaning, and as the foliage and wood are far advanced in ripening, destructive agents may be used at a strength that would not be safe earlier. The trees may be syringed with an insecticide at a temperature of 130° to 140°, the mixture being kept from saturating the soil by tying a handful of dry moss round the stem, and then raising a sort of pyramid of the same, placed about the plant. Badly infested wood should be brushed to dislodge scale, and repeat the syringing in a few days; afterwards sponge with an insecticide and cleanse by a thorough syringing with tepid water.

The trees will still require proper attention for watering, but only to the extent of preventing the foliage becoming limp, ventilating the house to the fullest extent day and night, but protect the trees from heavy rains, which have a tendency to saturate the soil and prejudice the ripening of the wood. Placing the trees outdoors is favourable to the maturation of the wood if the weather be fine and dry, but if wet and dull the air moisture causes growth which does not ripen well, and the first crop drops in consequence. Judgment must, therefore, be exercised as to whether the trees are kept under glass or placed outdoors. If the latter, the position must be sunny, the pots stood on a layer of ashes, with similar material about them, and though the trees must not suffer from dryness, material must be at hand to apply so as to throw off heavy rains and prevent the soil becoming sodden. Whether kept under glass or placed outdoors they cannot have too much light and air, the growths being fairly thin and the points exposed.

Early forced planted-out Fig trees are now ripening the second crop, and will need a circulation of air constantly, more, of course, by day than at night. If dull weather prevail, a gentle heat in the pipes makes a difference in the quality of the fruit, and prevents spotting and splitting. A little sulphur brushed on the flow pipes gives off fumes, disliked by red spider and spot fungus. Watering at the roots must be diminished, syringing over the trees discontinued, but a moderate air moisture should be secured by occasionally damping the floor and border for the benefit of the foliage. If red spider is present heat the pipes to 170°, or so hot that the hand cannot endure the heat, and then coat with a thin coat of sulphur and skim milk, keeping the house closed for an hour or two, then allow the pipes to cool, and admit air as usual. To insure good finish a free circulation of warm rather dry air is essential, and it also acts beneficially on the foliage and wood.

In late or unheated houses the fruit is now advanced for ripening, therefore spare no pains in freeing of red spider by syringing in the morning and afternoon. Admit a little air early, and increase it with the sun heat, maintaining through the day a temperature of 80° to 85°, with free ventilation, closing early, so as to increase to 90° or 95°; and when the sun power is declining a little air may be admitted at the top of the house, so as to allow the pent-up moisture to escape, and the temperature to fall gradually. Water or liquid manure will be required once or twice a week, according to the circumstances, in order to keep the soil properly moist and supply nutrition. When the fruit gives indications of ripening syringing must cease, watering being gradually reduced at the roots, a circulation of air constantly secured, freely ventilating when favourable, and husbanding the sun heat—not by closing, but by partially closing the ventilators, a confined atmosphere causing the fruit to crack or become mouldy.—GROWER.

Hardy Flower Notes.

A HARDY plantsman needs to be a cosmopolitan in his gardening, and must welcome a flower because of its beauty, whatever part of the globe may have given it birth. The subject of our next reference comes from that great land with whose people we have such kinship—the United States of America. *Galax aphylla* is not of noble proportions, but is admired because of its modest charms of flower and leaf. One loves to look at it nestling at the foot of a rockery near the stones, and partially shaded by other flowers, though fully open to the light. Here it is very charming, with its fresh green leaves and its spikes of pure white flowers, each small, but forming in company a tapering spirelet

has, however, come into bloom, and now that it has fully opened one does not feel disposed to regret its purchase, inasmuch as it is really very fine, although it is not as truly double as the old white *C. persicifolia alba plena*. It is, so far as this goes, no more double than white and lilac forms, which have been here for several years, and have been known as “semi-duplex.” It is notwithstanding a very beautiful plant, with dark blue glossy flowers, and on short stems. The flowers are very large, and have either a perfectly formed duplicate of the outer petals in the inside, or several smaller. It is an acquisition to the beautiful flowers given us by the Peach-leaved Campanula—flowers we could ill spare from the garden.

Space only remains for another new plant, but this time one's comments must be of an unfavourable character, though it is possible, but hardly probable, that future years may make one like it better.



FIG. 36.—THE WATER LILY HOUSE AT KEW.

of no mean beauty. A native of dry woods in its native land, it is not difficult to lose it in this country, as we are apt to run from the one extreme of keeping it too dry to the other of keeping it too wet, in which case it soon departs by damping off gradually at the neck. I find it likes to have about half an inch of pure sand above the peaty soil in which it is grown here. This is the conclusion to which one has come after the several losses caused by experimental planting. When happy it soon sends out little underground runners, and thus gives one the added pleasure of seeing it increase.

We are all more or less fond of novelty, and some of us desire at least to see what the new flowers are like in our own gardens, for thus one can best judge of their qualities. Even new varieties of old plants are often worth trying, though sometimes they are no improvement on the old. Among those I have flowered this year for the first time is a new variety of the Peach-leaved Bellflower, which bears the lengthy name of *Campanula persicifolia maxima plena*. Although it came to me from a good quarter, I have had some doubt about it being good. It

The plant that one has to criticise unfavourably is *Achillea Vandasii*, a flower whose name does not yet appear in that monumental work the “Index Kewensis.” It came to me from a Continental source, whence one sometimes receives good new plants. In this instance its probable destination will be the rubbish heap, as its flowers are not very attractive—less so, indeed, one thinks than those of our native *Achillea millefolium*. It has flat heads of a dull creamy white, and is of stiff erect habit. It cannot be considered an ornamental plant for the garden.

Disappointments of this kind are, however, incidental to the garden of hardy flowers. We must all pay for our experience, and we have delights enough in the other flowers to make us take little heed of such crosses. As we look at the colour pictures on every side we may readily forget this *Achillea*, and feast our eyes on the other and more beautiful flowers. There are golden or white *Oenotheras*, single and double Pinks, narrow petalled *Erigerons*, spiny Sea Hollies, golden Coronillas, the pretty pink and white *Coronilla varia*, the pleasing

Astrantias, Irises, Poppies, prickly yet beautiful Thistles, whose very look carries with it the Scottish motto; noble Delphiniums, with many other beauties of the border. Annuals, too, chief among them being some of the newest of the Sweet Peas, give their appreciated flowers, and in the little pools the Nymphæas shine in sunny days as if to show us that the Temple of Flora is to be found on more elements than one. If spring is "fair handed," as the poet tells us, summer is "full handed." She is liberal, too, and gives with no stinting hand the riches she brings into our gardens.—S. ARNOTT.

The History of the Rose.

(Concluded from page 34.)

ACCORDING to Nicander, in his "Georgics," beautiful Roses grew at a place called Themis, or Thetis; and at Olenum, a city of Achaia, not far from Patræ, now called Patras. Next to these places, Megara, Nisæa, Phaselis, and Tenedos were celebrated for their Roses; but the finest grew at Magnesia ad Mæandrum, a city of Lydia, now called by the Turks Gysel Hisar, or the Beautiful Castle. One of the speakers in "Athenæus" is made to say that what is related by Æthlius Samius in his work upon the singular occurrences which take place at Samos—namely, that in that island Figs, Grapes, Apples, and Roses are produced twice a year, appears neither improbable nor untrue. Cyrene, also, according to Pliny, was celebrated for its Roses; and, according to Herodotus and Martial, Egypt was also renowned for these flowers. Herodotus says that in the gardens of Midas Roses grew spontaneously, and that some had sixty flower-leaves, and were more fragrant than the rest.

According to the Calendar of Natural Occurrences in Greece, the Rose blossomed in March; the Rosa græca, or *Lychnis coronaria*, in May. In the Roman Calendar we find early Roses were in blossom in April, and that in May they were generally in flower. In Egypt, according to Theophrastus, the Rose blossomed two months before it appeared in Italy, and continued in flower for almost as long a time in the former country after it had ceased blowing in Italy. In the latter country it succeeded the blossoming of the Violet and the Lily.

Among the ancients the Rose was employed as a medicinal remedy; at their festivals and sacred ceremonies; and as an article of luxury at their banquets. Of the medicinal uses of the Rose frequent mention is made by Oribasius, Actuarius, Marcellus, Myriscus, and Celsus, together with many ancient writers on pharmacy. The accounts afforded by these writers are not sufficiently interesting to claim particular notice. In alluding to the more general uses of the Rose among the Greeks and Romans, the employment of flowers generally must in some degree be referred to; but the Rose was unquestionably the most esteemed of all flowers.

By the Greeks and Romans flowers were frequently employed. It was usual for them to adorn the temples, altars, and statues of their gods with them. (See Euripides: *Hippolytus*, *Troades*, *Helena*, &c.) Wreaths of flowers were also worn by those who were present at, or assisted in, the celebration of sacred rites (Eurip. *Iphigenia in Aulide*). They were also offered to those divinities to whom they were considered most grateful. It was a Grecian custom, according to Athenæus, to decorate the doorposts of houses where a maiden about to become a bride resided. The dead were crowned with flowers. It is still a custom in the Levant to strew flowers on the bodies of the dead, and in the hands of young persons to place a nosegay. Sophocles has represented Electra and Orestes as repairing to their father's tomb to deck it with garlands and honour it with libations. The relatives of the deceased wore garlands of Roses during the days of mourning, as emblematical of the shortness of life, which passes as quickly away as the beauty of those Roses would which formed the mourner's crown. The tombs of the dead were decorated with Roses, under the idea that they possessed the power of protecting the remains of the deceased, and were peculiarly acceptable as an offering to their manes. Other flowers besides the Rose were selected as having a special fitness for these purposes. The Greeks also used the *Amaranthus*, which is commonly regarded as the flower now known by the name of "Everlasting." Parsley and Myrtle were also funereal plants. But the Rose has been for ages the favourite flower for funereal and all other purposes.

Among the Romans all flowers of a purple or white colour were regarded as grateful to the dead. They were so fond of the Rose, that we find inscriptions which refer to legacies left in their wills for the express purpose of providing Roses, with which their tombs were annually to be decorated.

... Donavit sub hac conditione,
Ut quotannis Rosas ad monumentum ejus deferant.

(He bequeathed it on this condition, that annually Roses should be brought to his tomb.

(See *Le Antichità d'Aquileja*, Giandomenico Bertoli: Venezia, 1739: p. xix. ccxxxvii., &c.)

Roses were also strewed on the tables at their convivial entertainments, and on the floors of the rooms in which they feasted. Pacatius says:—"Delicati illi et fluentes parum se lautos putabant, nisi luxuria vertisset annum, nisi hyberna poculis Rosæ innatassent." ("The soft and luxurious thought themselves not sufficiently refined unless their extravagance changed the course of the seasons, unless winter Roses floated in their cups.") Suetonius relates of Nero, that he spent upwards of £30,000 at one supper in the purchase of Roses. This custom is supposed to have been introduced during the time of Horace; an opinion which has been formed from one of his odes (lib. i. od. xxxviii.), thus translated by Francis:—

"I tell thee, boy, that I detest
The grandeur of a Persian feast;
Nor for me the Linden's rind
Shall the flowery chaplet bind:
Then search not where the curious Rose
Beyond his season loitering grows."

Cleopatra is said to have expended a talent in the purchase of Roses for one banquet, on which occasion the floor of the apartment was covered with Roses to the depth of a cubit, or 1½ foot.—(*Athenæus*, *Deipnosoph.* lib. iv., cap. ii.)

The chief use of the Rose at feasts was to form crowns and garlands, which were placed upon the heads and around the necks of the guests. The garlands were generally provided by the master of the house. Those who attended on the guests were also crowned, and even the drinking-bowls were wreathed with flowers. Owing to this use of the Rose, we learn from Anacreon that a crown composed of them was regarded as an invitation to festivity; they were also considered as preventives of drunkenness; though certainly, in some instances, the flowery wreath seems to have been a well-understood mark of inebriation.

"Capiam mihi coronam in caput, assimilabo me esse ebrum."
PLAUTUS, *Amphitryon*, act. iii., sc. 4.

"I will place a chaplet on my head, and pretend to be drunk."

Rich unguents and oils were also prepared from the Rose (see *Homer*, *Il.* xxiii., 186), which were used on the same occasions as the Rose flower itself.

Many are the customs and superstitions connected with the Rose in our rural districts. On midsummer eve many a maiden gathers a Moss Rose.

"She bids it for her lover's sake
Await the new-year's frolic wake—
When faded, in its alter'd hue
She reads—'Then Robin is untrue.'
But if it keeps its crimson paint
Her sick'ning hopes no longer faint."

Newton, in his "Herball to the Bible," 1587, pp. 223-4, says:—"I will heere adde a common country custome that is used to be done with the Rose. When pleasaunt and merry companions doe friendly meete together to make goode cheere, as soone as their feast or banquet is ended, they give faithfull promise mutually one to another, that whatsoever hath been merrily spoken by any in that assembly should be wrapped up in silence, and not to be carried out of doores. For the assurance and performance whereof, the tearme which they use is, that all things there saide must be taken as spoken under the Rose. Whereupon they use in their parlours and dining roomes to hang Roses over their tables, to put the companie in memorie of secrecie, and not rashly or indiscreetly to clatter and blab out what they heare. Likewise, if they chauce to shew any tricks of wanton, unshamefast, immodest, or irreverent behaviour either by word or deed, they protesting that all was spoken under the Rose, do give a strait charge and pass a covenant of silence and secrecy with the hearers, that the same shall not be blowne abroad, nor tatled in the streetes among any others."

There are many other less remarkable uses of the Rose, which it would be necessary to mention in order to render the above by any means a complete account of this flower; their importance, however, does not warrant their insertion here. To the philosophic botanist the above account of the Rose will not, it is believed, be attractive; to the horticulturist it may present many pleasing features; to the classic reader it will recall customs most intimately blended with the beauties of Grecian and Roman poetry. The feeling, too, which dictated some of the most striking and touching uses of the Rose especially, and of flowers in general, is universal and natural to nearly all nations. The decoration of the tombs of the dead with flowers was an inexpressibly beautiful custom; and, though strenuously denounced by the early Christians as savouring of idolatry, the hearts of men soon wandered back to so simple, so elegant, so natural a mode of testifying affection. This is a custom which has been well said to be "of the heart, and to speak to it and has therefore maintained its ground in every age and region, unaffected by the constant changes in customs merely arbitrary and conventional."



Experiments in Charlock Spraying.—We learn that Mr. H. F. Hill of the Agricultural College, Aspatia, has made some interesting experiments in spraying Charlock, from which he concludes that Charlock spraying is more likely to be successful on a still than a windy day, and that in order to get the best results, the spray should stand on the plants for about three or four days without rain.

Whence Cork Comes.—The Cork Tree is an evergreen, about the size of our Apple tree. The bark is stripped in order to obtain the cork, which is soaked and then dried. The moment the bark is peeled off the tree begins to grow another cork skin, and each new one is better than the last; so the older the tree the better the cork. The trees are stripped about every eight years, and so strong does it make them that they often live to the age of 200 years. After the bark is stripped off it is trimmed and dried and flattened out. Then it is packed and shipped to all parts of the world.

Sweet Scented Flowers.—Many cultivators of ornamental plants desire especially to raise those which produce fragrant odour, particularly for bouquets, stands, and flower vases. In answer to inquiries a contemporary names the following sweet scented flowers, to which readers may add others:—Sweet Violet, Hyacinth, Heliotrope, Pinks, Sweet Scented Candytuft, Woodbine, Sweet Brier, Cabbage Roses, Tea Rose, White Lily, Sweet Alyssum, Mignonette, Sweet Pea, Carnations, Sweet William, and several sweet scented Perpetual Roses. Here are enough to fill a room or garden with perfumes which it would be difficult to rival.

Nertera depressa.—One of the earliest recollections of gardening I have is that of seeing a number of the pretty Bead Plants along the front stage of a greenhouse. In those days they were, in my youthful eyes, wonderful creations, and there was a distinct yearning to pinch the bright red berries nestling on their cushion of green. We have none too many small dainty plants of this character for placing in little corners and standing along the fronts of stages, so one wonders why *Nertera depressa* is not grown for this purpose so much as it used to be. A packet of seeds sown in the spring will go a long way, and small pots furnished with this pretty easily grown plant are not only useful for the purposes indicated, but they may be employed with advantage for dinner table decoration. Many bare places in the greenhouse rockery might be brightened by small clumps of the Bead Plant.—V. T.

Spanish Grapes.—An exceedingly smart piece of work was effected on Friday between the river wharves and the fruiterers' stalls. At 8 A.M. the "Fridtjof," at Nicholson's Wharf, and the "Gravina," at Fresh Wharf, began discharging cargoes of Spanish produce, in which there were included about 12,000 barrels of Denia Grapes and a large quantity of Melons and Valencia Tomatoes. By 11 A.M. these were all sold by auction in the Floral Hall at Covent Garden, and from 2 to 6 P.M. were on sale retail, according to the distances that had to be compassed. According to one of the principal auctioneers in the market, the demand is more widespread than at any time in his experience. The result is that white Grapes in their prices at Covent Garden leave no more than a decent margin for the retailer at 6d. a pound and blacks at 9d., while Melons must run to about 8d. apiece.

Carnation Mrs. Thos. W. Lawson.—Never since the days when Uriah Pike was first sent out has greater interest been centred in a new Carnation than over the 30,000 dollar American variety, owned by Mr. Galvin of Boston, sold to Mr. Thos. Lawson, the famous Boston banker, and named in honour of Mrs. Lawson. Almost every good firm in the kingdom has clamoured to get a supply, and it is to be seen not only in good large-sized plants, but plants of almost every size, to suit all pockets. I have been on the watch for blooms of it, but not until last week, at Messrs. W. Clibran & Sons, Altrincham, was I able to see it, and then not by any means in its true form as regards the flowers, owing to their being produced from March-struck cuttings. The splendid and large batch of plants seemed to possess a capital constitution, growth being free and the habit most promising. The flowers are of the richest pink shade, are freely produced, and well formed. Strong plants and skilful cultivation seem to be the only requisites to make the variety the success in England that it has been in America.—A VISITOR.

A Curious Place for Mushrooms.—A "Daily Mail" correspondent writes:—"There are thirty Mushrooms of various sizes growing at the present moment in the perpendicular part of my coal shoot. I have shown these Mushrooms to my fruiterer and to my friends. My family has eaten them and found them excellent, so there can be no mistake about the variety."

American Apple Orchards.—No marked changes have taken place in the outlook for the Apple crop since the American Agriculturist's earlier report. The June drop was considerable, but this is always to be expected. The outlook, as a whole, continues promising throughout the commercial orchard belt. Current returns from Apple orchards west of the Allegheny Mountains show some lowering of promise as a result of the June drop, but the decline is less serious than frequently occurs during this period. The prospect is rather irregular, with the better outlook in the northern belt, and even inside of State lines the conditions vary greatly. In the middle and central West, the present promise is for a crop above the average in nearly every State, though there are some good orchard districts where only a poor crop is in sight.

Phosphoric Acid for Plants.—Phosphoric acid is one of the most essential of all plant food elements. It is never present in the soil in available form except in very minute quantities, and this renders the necessity for regularly supplying it to land which is heavily cropped or grazed all the more pressing. Of the absolute necessity of phosphoric acid as a plant food constituent, a striking proof can be obtained, says the "Farmers' Gazette," by growing a few plants in pure sand, and supplying them with all the materials essential to their growth with the exception of this element. The result will be that the plants will absolutely refuse to grow. This is rendered all the more remarkable by the fact that if they are planted in pots lacking any one of the plant food constituents, other than phosphoric acid, they will reach a certain stage of development ere they disclose the effect of the absence of the particular plant food ingredient left out of the mixture.

Truffles.—Truffle hunting as a regular pursuit among the peasantry is not yet quite extinct—or was not a very few years ago. At Cheriton, close to the scene of the stern struggle between Roundhead and Cavalier, there recently lived an old man called Isaac Leach, who, says a correspondent of the "Daily Express," practically subsisted by the Truffles he found and sold. His Truffle dog is still alive, I believe, and belongs to one of the villagers; it is white and curly-haired. Leach would sometimes find as much as a pound of Truffles in the day among the downs. Of old, Truffle hunting was quite a calling. "Ye Truffle man" is mentioned by various old writers. Gilbert White, in his delightful "Observations on Vegetables," has this note: "A Truffle hunter called on us (in August) bringing in his pocket several large Truffles found in the neighbourhood. He says these roots are not to be found in deep woods, but in narrow hedgerows and the skirts of coppices. Some Truffles, he informed us, lie 2 feet within the earth, and some quite on the surface; the latter, he added, have little or no smell, and are not so easily discovered by the dogs as those that lie deeper. Half a crown a pound was the price which he asked for this commodity. Truffles never abound in wet winters and springs. They are in season, in different situations, at least nine months in the year."

Jamesia americana.—This is a native of certain parts of the Rocky Mountains, and is not very common in the wild state, or cultivated to any great extent, but it is worthy of a place in the shrubbery from its distinct habit, and its beauty when in flower. It is a branching shrub 3 to 4 feet high, the stems being covered with a loose, papery bark, which peels off easily, and is practically shed annually. The leaves are about 2 inches long, ovate in shape, with crenate-serrate margins, and markedly impressed veins. The flowers open in June, and are borne in dense, terminal heads, which are roughly pyramidal in shape. The individual flowers are about half an inch across, of a pure white, but having no scent. All the younger parts of the plant, including the calices, are covered with a soft, woolly pubescence, which, however, is not so marked on the upper surface of the leaves as elsewhere. The plant will grow in almost any soil, but prefers a moderately dry situation with plenty of sun, and should be planted in small groups of about half a dozen plants to insure the best effect. It is easily propagated by seeds, cuttings, or layers; seeds are freely produced in most seasons, but some of the smaller birds find the fruits very tempting when about half ripe, and, if allowed, will clear the plants of them before they have time to mature. *Jamesia* was named in commemoration of the services of Dr. E. James, who was the botanist of Major Long's expedition to the Rocky Mountains in 1820.—C.

Notes on Clerodendrons.

ALTHOUGH Clerodendrons comprise a large number of separate species it is not my intention to dilate on each variety individually, for to do so would occupy more time and space than the limits of my paper will afford. I will therefore restrict myself to a few remarks pertaining to three of the best and most useful varieties only—viz., *C. Thomsonæ*, *C. splendens speciosissima*, and *C. fallax*. In habit and growth there are two distinct sections, one being of a climbing and the other of a shrubby nature. The first two both belong to the climbing varieties.

C. Thomsonæ, or *Balfourianum* (fig. 37), as it is more often called, on account of the brilliancy of its flowers, together with the great freedom with which they are produced, is undoubtedly the most widely cultivated. The flowers, which are disposed in large panicles, are of a beautiful bright crimson colour, with calyces of pure white, and when seen to perfection cannot fail to impress a lasting effect on the memory. If grown in a large pot, and its cultivation carefully and assiduously attended to, few climbing plants can excel it for exhibition purposes. *C. splendens speciosissima* forms a grand companion to *C. Thomsonæ*. In habit and character it is very similar, but differs in the colour of the flowers, which are of a dazzling scarlet, and freely produced over the bright shining green foliage, truly classes it as one of the best stove climbers in cultivation.

In *C. fallax* we have without doubt the very best of the shrubby varieties, and I have confidence in saying that when once given a fair trial the results will exceed all expectations, and will not fail to please the most fastidious. It is of an erect growing nature, and freely produces its bright scarlet flowers in large terminal panicles. Firm potting is essential, being conducive of obtaining short-jointed wood, and also adding materially to the strength, size, and durability of the flowers. Propagation may be readily effected by cuttings or seeds, and I much prefer the latter course, although the quicker way is undoubtedly by cuttings.

Plants of Clerodendrons which have been at rest should be overhauled in May, removing any weak or superfluous wood, and in the case of the climbing varieties tying the remainder of the growths neatly and evenly. They should then be placed in a brisk heat, and kept well syringed to encourage them to break, water at the roots being sparingly applied till root action has commenced. When they have made a few inches of growth they should be either shaken out and repotted or have the surface soil removed and well top-dressed according to the state of the roots.

A mixture of good fibrous loam and peat in about equal proportions with one-fourth leaf soil or well decomposed manure, to which a little charcoal and sand have been added, will form a very suitable mixture for the climbing varieties, but the shrubby sorts, owing to the grossness of their foliage, will require a somewhat stronger compost. Should any signs of insect pests be detected every effort must be strenuously employed for their extermination, or they will quickly establish themselves on the young growths, when it will be impossible to eradicate them. Should mealy bug make its appearance, the best and most effectual cure is by handpicking, or by sponging with a solution of soft-soap and Gishurst compound.—G. P.

Royal Horticultural Society.

Scientific Committee, July 31st.

Present: Dr. M. T. Masters (in the chair), and Dr. Russell, Rev. W. Wilks, and Rev. G. Henslow, hon. sec.

Peaches diseased.—Mr. Rogers of Bridge Hall Gardens, Bury, sent samples attacked by the "Peach mildew." The Peaches become arrested in patches, never ripening where the fungus is located. Sprinkling with sulphur is the best remedy.

Roses decayed.—Mr. Kelly, Gardens, Greenwell Ford, Dnrban, forwarded shoots split and decayed. The appearance suggested their being cracked by frost and subsequently attacked by fungi.

Nymphæa synanthic.—Mr. Hudson sent a specimen of twin flowers united, of the lavender-coloured *Nymphæa stellata* from S. Africa.

Stanleya pinnatifida.—Flowering sprays of this Crucifer were sent by Mr. Bunyard. It is remarkable for the long spreading filaments and yellow sepals. It is a native of California, and figured in Gray's *Gen. Flor. Amer. bor.*, pl. 65.

Figs dropping.—Dr. Russell brought some Figs grown against a wall at Ringwood, Cornwall, which turned yellow, became shrivelled, and

fell just before ripening. There was no fungus, but it was apparently due to want of water or nourishment. They were sent to Mr. Wright for examination, who reports as follows:—

"There are several causes that will affect Figs like the examples just to hand; such as too much or too little water, not sufficient atmospheric moisture, and sudden checks in the atmosphere, also over-cropping. Any one of these will cause the fruit to drop prematurely. No fruit requires so much care and attention as the Fig."

Pears decayed.—Dr. W. G. Smith sent the following report on Pears received from Rev. H. W. Fletcher, Bicker Vicarage, Boston:—

"The Pears received were quite dried up, and full of mycelium; they had assumed the mummified condition which follows attacks by *Monilia fructigena*, the brown fruit rot of Apple, Pear, Peach, and other Rosaceous fruits. Cultures in a moist chamber produced several forms of fungi, including the form of spores known as *Monilia*. There were some insect larvæ in one of the fruits. Your correspondent mentions that the check began during a south-east wind, and also that the very early sorts escaped attack. In view of this it may be safest to assume that the crop received a check by this wind, and that the fruit was thus rendered susceptible to attack by fungi, &c.; the *Monilia* form producing the mummified condition of the fruits received. The earlier sorts escaped because the fruit was further advanced and more resistant. All the dried fruits left hanging on the tree should be gathered and burnt."

Early Potatoes at Chiswick.

PLEASANT and agreeable as are the meetings of the various committees at Chiswick, certainly the one held there by the Fruit and Vegetable Committee on August 3rd was the reverse of pleasant by reason of the stormy and wet weather that prevailed, and which had a disastrous effect on the attendance, only four members braving the elements. What was lacking in numbers those present sought to make good in attention and ability, and no doubt did their work well.

Potatoes form a large feature in the vegetable trials, there being two extensive breadths planted, the one for assumed early varieties, the other for later ones. Only the first named came under notice, the other being left over for attention at a future day. Unfortunately those who send in new, or supposed new varieties of Potatoes, read the term "early" with a liberal spirit, and some classed as early bid fair to be ready for inspection toward the end of the month. Another annoying feature is the practice of sending in varieties under numbers. That should be stopped, and it is hoped the council will yield to the wishes of the Fruit Committee and in future admit nothing whatever that is not fully and clearly named. As it is a variety may obtain an award under a number, and some other variety may be put into commerce under name as that variety. Still farther, it is not in accordance with the objects in view that Chiswick Gardens should be made a trial ground for raisers. Let them test their seedlings thoroughly at home, and when they are satisfied they have good things then let them be sent to Chiswick duly named.

The Chiswick people have so far been very good natured and liberal minded in relation to these things, and have given everything sent a full and fair trial. Still, it is poor return for such consideration to find that there is amongst these products much that is worthless. It would be so great a gain if those who send things for trial would first see how far they compared with or were better than similar ones in commerce before sending. Of course in sending to Chiswick more is desired than that these products be tested with others. The senders naturally hope to obtain some awards at the hands of the committees, and there never is any disposition to withhold awards of a suitable nature when products are really good. It is, however, needful for anyone interested in raising or sending new varieties to understand that vegetables are so good to-day, and the raisers and the trade merit all praise and credit for what has been accomplished, that only the very best products can hope to obtain awards.

On the date named out of some sixty varieties of Potatoes raised only nine were found desirable to send for cooking; although there was not one that gave any exceptional crop, still they were the best thus seen. Of these none was better than the old and popular Beauty of Hebron, which gave not only a good crop of handsome Potatoes, but when cooked gave the dryest and nicest flesh. This was awarded three marks, never previously having had an award. Sutton's Harbinger, short top, round, and a good cropper, a first-rate early border variety; Sharpe's Meteor, previously mentioned as a forcing variety, and universally grown; and Early Peter, which obtained an award last year, each had previous awards confirmed. Three marks were also given to Pioneer, a very handsome, smooth, early kidney of excellent quality.

It was mentioned—and this is one of the results of sending under number—that a capital early kidney from Sharpe's, of Sleaford, awarded a F.C.C. last time, was really named Denby Castle. It is to be hoped that senders of vegetables will in future take the hint, and send all products under name only.

Mr. Wright at my suggestion tested the merits of late as well as of early planting of several varieties, and on the same plot of ground. The bulk were planted in March, the others a month later. At Chiswick the early Potatoes have so often suffered from late frosts that it was suggested some of similar varieties be planted a month later, to see what would be the result. It so happened that no appreciable harm was done to the tops by frost this year, hence the trial was so far shorn of one element of interest. But an odd result was found. It

was that whilst throughout the whole of the early planted rows, doubtless because the tubers being earlier and riper, none had sprouted or grown out, but on the late planted ones a few of the varieties were found to have sprouted badly, even 3 inches long.

experience at Chiswick, for so late as August 3rd. I noticed another point in late sowing of various Lettuces. Stocks sown and planted out early, and seen some time since, did remarkably well, hearting in finely. Similar varieties sown and planted out a month later had all bolted.



FIG. 37.—CLERODENDRON THOMSONÆ (BALFOURIANUM).

Whilst the early ones so far have escaped from this annoying evil, it is feared that many of the later ones will not do so. Another feature of a gratifying nature was that whilst three and four roots each of so many varieties were lifted not one was found diseased; nor was there the least evidence of disease on the leafage. That was unusual

The committee saw a small trial of Dwarf Kidney Beans. The best was Early Favourite (Veitch), to which three marks were awarded. A very promising white-flowered variety, of a hybrid form, not yet ready, is to be seen again. It bore the appearance of being a very long season cropper, of course if kept closely gathered.—A. D.

Dendromecon rigidum.

THIS is a Californian plant, a native of the dry rocky coast ranges from San Diego to Clear Lake, and found most abundantly south of Point Conception, and on Santa Rosa Island. The flowers are yellow, with all the characters and intensity of colour of a true Poppy. They are terminal on the numerous twiggy branches produced by the straw-coloured older wood. It grows from about 3 to 8 feet in height with leaves of a bluish colour from 2 to 4 inches long. The two very concave sepals, like most members of the order, fall off very early after the opening of the flower, which spreads widely in the early hours of the day, but assume a more cup-like form after noon. The two forms are given in our engraving (fig. 38). The plant is perfectly hardy in England, but somewhat difficult to grow. Discovered in California by Mr. David Douglas, it was first grown from seed sent by Mr. W. Lobb to Messrs. Veitch & Sons. It is somewhat variable in the character of its leaves, and undoubtedly a handsome plant when well grown, a valuable feature being the length of time during which flowers are produced.

Dunardagh, co. Dublin.

POSSESSING features peculiarly its own, Dunardagh, the seat of George Orr Wilson, Esq., stands prominent among the pretty places situated on the picturesque side of Dublin city. True it is that Dunardagh is, in a measure, cut off from the vista of our beautiful bay, to which it lays in proximity, yet Nature has not only been generous to it in a background of surpassing beauty provided by the Dublin mountains in the near distance, but has given to this charming demesne its primary feature in some of those grand old granite boulders which form the backbone of the mountain range. With such a fine piece of natural rockwork in the pleasure grounds it is not a matter for surprise that Mrs. Wilson's artistic tastes, and the indefatigable hand of Mr. Hardy, the head gardener, have found scope for picturesque planting with some little curtailment or direction of Nature's wild ways. In planting, due regard has been given to the merits of the graceful Bamboos, and as one winds up by a natural stair to the summit of the rock, cosy nooks display them to advantage. The conversion of this rock into a thing of beauty has been the work of years, yet opportunities are not wanting for its further embellishment by planting as time and season permit.

Another feature of Dunardagh, although an artificial one, consists of its asphalted walks, which run here, there, and everywhere save in the vegetable garden. A spacious conservatory and range of vineries are in proximity to the mansion, the south and west fronts of the building being set off by a good expanse of lawn, brightened by flower beds, and bounded on the eastern side by a series of herbaceous borders. At the time of our visit a grand display of Daffodils was seen, among which some of the finer kinds in quantity were conspicuous, Sir Watkin being in particularly fine form. The principal plant houses, in the garden proper, contain much that is choice, and all that show high cultivation. Eucharis were in fine form, the mass of luxuriant, deep toned foliage bearing witness to the entire absence of that *bête noire* of the Eucharis grower—the mite. Mr. Hardy seems, indeed, sceptical of the powers, if not of the very existence of this vile "beastie." May he long continue in happy ignorance of it! A remarkable plant of *Nepenthes Mastersiana* covered part of the roof of a plant stove, being trained on wires overhead. In this garden fruit trees are prominent, Apples and Pears receiving from Mr. Hardy more attention than generally obtains in the locality to counteract climatic influences, and he is well repaid with fine fruit, not surpassed, if equalled, by any grown in this part of the county.

Particular attention is also given to vegetables in a garden devoted to their culture, and here was to be seen a good breadth of an especial Potato, selected by Mr. Hardy some years since as the fittest for all purposes required of a kidney, being early, short topped, of high quality, and ultra prolific. From its excellence and distinctiveness it may well be christened "The Dunardagh."

In a long greenhouse a well grown and representative collection of Chrysanthemums is annually staged, and displayed at night by the electric light. Mr. Hardy is an expert electrician, and although one may as a gardener meet him on his own ground, here, in the complex arrangements and sundry devices peculiar to the Dunardagh installation, which the young gentlemen of the family have perfected to the end of making it the most perfect thing of its kind in Ireland, one gets bewildered. Yet it is all so simple, our friend says, as he puts the ponderous wheel of a powerful gas engine in motion, pushes round

sundry switches, and points to delicate mechanisms now in activity, some of which have been made by his own hand. It is highly interesting, but from the heights of enthusiasm our friend fires off a battery of technical terms, under which a retreat is made by—K., Dublin.

Zonal Pelargoniums.

No time should now be lost in cutting back Zonal Pelargoniums that have flowered early, so as to get fresh shoots for blooming next season. It is not good management to allow any pot "Geraniums" to flower too long—for not more than six weeks, or two months at the farthest; neither is it desirable that the young wood which will arise after cutting down should be longer than a few inches by the end of the autumn; therefore, where a succession of flowers is maintained with a few plants, all the success hinges on the proper management of these plants. The bushier they are kept the longer they will live, and the better they flower. Amateurs often make them grow so fast, and they have such a knack of training out the branches, that a two-year-old plant would seem as if it were three times that age; but, with the ordinary culture, it takes at least five years to make such plants of them. Therefore, unless they are cut very low each time, they cannot come to a respectable age without becoming bare.

The great mistake in the management of window "Geraniums" is that they are so seldom trained when they are young, or after they are cut down. Whatever shoots they make are allowed to grow straight upwards, and then the strongest rob the others of their proper share of the ascending sap, which makes them still more vigorous, while at the same time the weaker ones suffer in proportion. Thus their natural condition in the wilderness is exemplified under a strictly artificial system.

Pruning and Training.

Young "Geraniums" that have been bought this season are sure to be right enough at the bottom, and all that they require is to be cut down to three eyes of the new growth they made this season, and the third or last eye left on the stump should be on the outside of the shoot, so that it may grow out laterally, and give a better form to the future plant. If this third eye happens to be on the inside, or upper part of the shoot, pick it out with the point of the knife, and cut to the next eye above it, which is sure to be on the under side, or at least on one side of the shoots. Indeed, although I say cut to three eyes, it is not at all necessary to cut so close; there must be only three eyes left, but these three eyes need not be the very lowest ones on the shoot. The three lowest eyes that are best placed on the shoot are to be preferred—say one on each side of the shoot, and the last underneath it.

For older plants that have been thus treated in former years one need not be so particular, because if the foundation is already well laid you can hardly build wrongly upon it, provided you do not allow strong eyes to grow from the upper side of a branch close to its bottom. All upright shoots in the centre of a "Geranium" are better avoided, and it is easier to cut out the eye at first than to train down the shoot from it afterwards. When weak shoots occur they must be cut to the best placed eye, and only that one left to grow. Nothing looks so ugly as to have long brown shoots on an old "Geranium." The older the plant is the better clothed it should appear at the bottom; but that can hardly be obtained if the shoots are allowed to spring up directly from the bottom. All the main shoots, while they are young, ought to be trained a little sideways.

Treatment of Skeletons.

But what is to be done with those deplorable skeletons that have not a leaf or a trace of a bud within 12 or 18 inches of the pot, and their tops so tall as to darken the window lights? Half the world would say, Throw them on the rubbish heap and buy new ones—very good advice if they would follow it up by handing over the where-withal to buy them.

They have an old saying in the Highlands that a man is not worthy of a new pair of shoes until he learns how to mend his old ones; and we may apply the adage on this side of the border by saying that he who cannot prune his old "Geraniums" properly should never be indulged with young ones. Therefore, we must prune down those long-stemmed plants, even if we lose them in the attempt; and if we should kill them, we may as well do so at 3 or 4 inches from the pot as 10. Let that be the mark, therefore; choose a smooth part between two joints, and off with the top at one cut.

"Ah!" someone says, "here is a pretty dilemma we have just got into! Why, that plant will bleed itself to death; we forgot to let it get quite dry before cutting it!" Put the stump of a plant into a warm place, and if it gets over the double misfortune—I mean the bleeding and the long stems—it will do so the sooner by being kept in the warm place. Give it no water till this wound is quite dried over; after that give it a plentiful supply, and if you sprinkle a little water over it now and then it will not fail to make a good plant yet, if the roots are quite healthy.—G.

Midland Carnation and Picotee Society.

August 1st and 2nd.

THE Botanical Gardens, Edgbaston, was again the venue of the Carnation Society's annual exhibition, under the most favourable auspices as far as the weather was concerned, especially in relation to the preservation of the blooms during the two days of exhibition, while the comparatively cool, or rather the modified sunlight and heat, which had characterised the weather of several days immediately prior to the show, went far to augment the quality of the blooms, inasmuch that good as the exhibits of the previous shows were, they were totally eclipsed by the recently shown productions. That well known carnationist—the hero of one hundred fights—Ben Simonite, and shall it also be said, “censorious of censors,” whose keen professional optics appeared to be as bright as ever, expressed unqualified praise of the extent and general excellence both of the Carnations and Picotees. There was a marked absence of southern exhibits, induced, it was authoritatively averred, by the exigencies of the recent tropical heat.

The Midland Counties' challenge cup, value 12 guineas, subscribed for by members of the Society in 1898, and then held by Messrs. Thomson & Co., changing hands to Mr. Robert Sydenham in 1899, was on the recent occasion won by Mr. A. W. Jones, Handsworth, with 130 points against the 109 of Messrs. Thomson & Co. Birmingham, while the Sydenham amateur challenge cup was won absolutely by Mr. R. Chatwin Cartwright. Bearing upon the system of pointing relative to the competition for the foregoing prizes, at the luncheon Mr. R. C. Cartwright and Mr. A. W. Jones, whilst gratified with the acquisition of the cups, remarked that they did not entirely approve of this method of “scratch pointing,” and would prefer winning on the intrinsic quality of the individual blooms, a suggestion which evidently was fully concurred in by the other exhibitors. Several silver and bronze medals were offered by the Birmingham Botanical Society for points in various classes, and the successful winners were Mr. A. W. Jones, Messrs. Thomson & Co., and Mr. R. C. Cartwright.

In the matter of new varieties of Carnations and Picotees nothing very striking was forthcoming, and the judges did not feel justified in awarding Mr. R. C. Cartwright's silver cup offered for seedlings staged by Midland growers. Two first-class certificates of merit, however, were awarded, one for a Picotee named Amphion, heavily marked with purple on a buff ground, exhibited by Mr. A. Chatwin, Edgbaston, and the other for a seedling named W. H. Johnston, somewhat similar to Scarlet Queen, exhibited by the Rev. C. A. Gottwaltz of Droitwich. Carnations and Picotees were very numerous shown with sprays of own foliage in bottles and vases, a slight dressing of the flowers being permitted, and with the calyx of each bloom to be raised not less than one inch above the vessels.

In the class for twelve self Carnations, dissimilar, there were eight exhibits—a meritorious exhibition throughout—the premier prize being adjudged Mr. A. W. Jones for Cecilia, Mrs. Eric Hambro, Barras; Britannia, Mrs. MacRae, Enchantress, Much the Miller, Boreas, Her Grace, Benbow, The Briton, and Lady Hindlip; the second prize fell to Mr. R. Sydenham for also an excellent lot, comprising Agnes Sorrel, Benbow, Midas, Cecilia, Queen of Scots, Diana, Mrs. Eric Hambro, Seagull, Endymion, Roseleigh Gem, Boreas, and Lady Hermione. The third prize went to Mr. A. Chatwin (in the whole of the classes, excepting the single bloom, seven prizes each were off-red, and five each in the latter classes). For six selfs, dissimilar, Mr. R. Chatwin Cartwright led off with grand examples of Enchantress, Her Grace, Seagull, Germania, Benbow, and Boreas, the second and third prizes going to Mr. C. W. Kemp, Edgbaston; and Mr. W. Bellamy, Penkridge.

In the class for twelve yellow ground Picotees, dissimilar, Mr. A. W. Jones proved victorious with remarkably fine examples of Badminton, Lady Bristol, Onda, Wanderer, Empress Eugénie, Heather Bell, Duke of Alva, Mohican, Mrs. Tremayne, Hygeia, Hesperia, and Stanley Wrightson; the second position was secured by Messrs. Thomson and

Co., and the third by Mr. A. Chatwin. For six ditto Mr. R. C. Cartwright secured first honours with an even and superb complement, comprising Duke of Alva, Lady Bristol, Mrs. Tremayne, Effie Deans, Mohican, and Stanley Wrightson, the second and third prizes falling to Mr. C. F. Thurstan and Mr. W. H. Parton, Kingsheath, respectively.

Mr. A. W. Jones again distinguished himself with a grand collection of twelve Fancy Carnations, dissimilar, including Queen Bess, Voltaire, Aglaia, Eldorado, The Gift, Brodick, Perseus, Monarch, Galileo, Czarina, Guinevere, and Heroine; the second and third prizes went to Messrs. Thomson & Co., and Mr. A. R. Brown, Handsworth. For six blooms Mr. C. W. Kemp was adjudged first with an excellent exhibit, consisting of Perseus, Voltaire, The Gift, Miss McKenzie, Brodick, and Monarch; Mr. R. C. Cartwright and Mr. T. A. Harper, Aston, followed closely. There were fourteen entries in this class.

For twelve white ground Picotees, dissimilar, Mr. Tom Lord made the running with Ganymede, Lady Louise, Amy Robsart, Little Phil, Mrs. Openshaw, Mrs. Gorton, Fortrose, Muriel, Favourite, H. Kenyon, Brunette, and John Smith; the second honours went to Mr. R. C. Cartwright for Little Phil, Ganymede, Pride of Leyton, Amy Robsart, Favourite, Miriam, Thos. William, Mrs. Beswick, Isabel Lakin, Clio, Mrs. Openshaw, and Grace Ward. The third prize was won by Mr. R. Sydenham, in which Fortrose was awarded a premier prize. For six blooms, twelve entries, the first prize was credited to Mr. A. Chatwin with Mrs. Beswick, Amy Robsart, Clio, Miriam, Pride of Leyton, and Polly Brazil.

For twelve flake or bizarre Carnations, dissimilar, Mr. Tom Lord scored with excellent examples of J. S. Hedderley, Geo. Melville, John Wormald, Arline, Admiral Curzon, Mrs. May, Gordon Lewis, Robert Houlgrave, Sportsman, Master Fred, Robert Lord, and J. D. Hextall. Messrs. Thomson and Co. were an excellent second with Gordon Lewis, J. Wormald, Geo. Melville, Merton, Master Fred, J. S. Hedderley, W. Scruton, R. Houlgrave, J. D. Hextall, Sportsman, John Buxton, and Mrs. Rowan. For six blooms Mr. R. C. Cartwright led off with Rob Roy, J. S. Hedderley, Gordon Lewis (premier bloom), Guardsman, W. Skirving, and Admiral Curzon; the second prize went to Messrs. Sutcliffe & Uttley with Sarah Payne, J. S. Hedderley, Sportsman, Master Fred, Merton, and Robert Houlgrave; and the third prize to Mr. A. R. Brown. A strong class throughout the seven winners.

In the classes for single blooms of Carnations and Picotees the competition was remarkably keen, and upwards of 400 blooms were staged. Scarlet bizarre.—First and second Mr. R. Sydenham; third Messrs. Pemberton & Son; both with Robert Houlgrave. Crimson bizarre.—First and third Mr. Tom Lord with Master Fred and J. S. Hedderley; second Mr. R. C. Cartwright with Master Fred. Pink and purple bizarres.—First Mr. R. C. Cartwright; second Mr. Tom Lord; and third Mr. C. F. Thurstan; names of blooms overlooked. Scarlet flakes.—The first prize to Messrs. Pemberton & Son with Sportsman; the second and third to Mr. T. Lord with the foregoing variety. Purple flakes.—First Mr. R. Sydenham with Gordon Lewis; second Mr. T. Lord, and third Mr. R. C. Cartwright, both with Gordon Lewis. Picotees edge.—First and second Mr. Tom Lord with John Smith; third Mr. R. Sydenham with Isabel Lakin. Light red edge.—First and second Mr. F. W. Goodfellow with Mrs. Gorton; third Mr. R. Sydenham with Thos. William. Heavy purple edge.—First Mr. R. C. Cartwright with Muriel (premier bloom); second Mr. F. W. Goodfellow with Mrs. Openshaw; and Mr. R. C. Cartwright with the same variety. Light purple edge.—First Mr. R. C. Cartwright with Pride of Leyton; second Mr. R. Sydenham with Lavinia; third Mr. Tom Lord with Somerhill. Heavy rose edge.—First Mr. R. C. Cartwright with Mrs. Beswick; second Mr. Thurstan with Lady Louisa; third Messrs. Thomson & Co. with Little Phil. Heavy scarlet edge.—First to the Rev. C. A. Gottwaltz with a grand bloom of W. H. Johnston. Light rose or scarlet edge.—First Mr. R. C. Cartwright, second Mr. T. Lord, both with Favourite; third Mr. T. Lord with Fortrose.

Yellow ground Picotee.—First and second Mr. A. W. Jones with



FIG. 38.—DENDROMECON RIGIDUM.

Empress Eugénie; third Mr. R. C. Cartwright with Douglas. Yellow ground Fancy.—First Mr. A. W. Jones with Queen Bess; second Mr. H. G. Owen with Golden Eagle; third Mr. A. W. Jones with Brodick. Fancy Carnation other than yellow ground.—First Mr. R. C. Cartwright with Monarch; second and third Mr. A. R. Brown and Mr. R. C. Cartwright both with Pelegia. White self.—First Mr. R. C. Cartwright with Mrs. Eric Hambro; second Mr. Tom Lord with same variety; third Mr. C. F. Thurstan with Much the Miller. Blush or flesh self.—First Mr. T. Lord with Seagull; second Mr. T. Lord with Gentle Jacket; third Messrs. Thomson & Co. with Seagull. Yellow self.—First Mr. R. C. Cartwright with Guinevere; second Messrs. Thomson and Co. with Germania; and third Mr. E. C. Rossiter with the same variety. Buff or terra cotta self.—First and third Mr. R. C. Cartwright with Benbow; second Mr. A. Chatwin with same variety. Rose or pink self.—First Mr. C. F. Thurstan with Exile; second Mr. E. C. Rossiter, and third Messrs. Thomson & Co., both with Sadek. Salmon pink or salmon scarlet.—First Mr. A. W. Jones with Enchantress; second Messrs. Artindale & Son with Endymion; third Mr. R. C. Cartwright with same variety. Scarlet self.—First Mr. R. C. Cartwright with Isinglass; second Mr. A. W. Jones with Mrs. McRae; third Mr. R. C. Cartwright with the latter variety. Dark crimson or maroon self.—First Mr. A. W. Jones with Comet; second Mr. R. C. Cartwright with Boreas; third Mr. H. G. Owen with Negress. Any other dark self.—First and second Mr. R. C. Cartwright with Roseleigh Gem; third Mr. R. Sydenham with same variety.

Premier blooms.—Messrs. Pemberton & Sons with Robert Houlgrave; Mr. R. C. Cartwright with Gordon Lewis; Mr. R. C. Cartwright with Muriel; Mr. R. Sydenham with Fortrose; Mr. R. C. Cartwright with Benbow; Mr. Chatwin with Mrs. Douglas; Mr. A. W. Jones with Queen Bess.

Sweet Peas formed a very pleasing feature, and many excellent blooms were on evidence. For nine varieties.—First, Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Edgbaston; second, Mr. W. Bellamy. Floral arrangement of Sweet Peas.—First, Mr. W. Bellamy; second, Mr. B. M. Binns. Twelve varieties Sweet Peas.—First, Mr. A. W. Hulse, Birmingham; second, Mr. A. T. Simpson, Shipston-on-Stour. Twelve bunches herbaceous cut flowers.—First, Mr. A. Cryer.

Floral table arrangement.—First, Mr. W. M. Binns, Worcester; second, Mrs. C. H. Herbert, Birmingham. Three buttonholes.—First, Mr. R. C. Cartwright; second, Mr. C. W. Kemp.

For non-competitive exhibits a silver-gilt medal was awarded to Messrs. Gunn & Sons, Olton Nurseries, Birmingham, for a magnificent collection of hardy herbaceous cut flowers, most artistically arranged, also named. A similar award was made to Mr. B. R. Davis, Yeovil, for a gorgeous and large display of cut double Begonias. Silver medals were awarded to Mr. J. H. White, Worcester, for a very fine and well arranged collection of hardy cut flowers; to Messrs. Hewitt & Co., Solihull, for a similar arrangement; to Messrs. Dickson, Chester, for a collection of Carnations; to Messrs. Simpson & Sons, Birmingham, for a collection of Sweet Peas; and to Messrs. W. Watson & Son, Clontarf, Dublin, for Carnations and Picotees.



Fruit Forcing.

Vines.—*Early Houses.*—The Vines now have the wood ripe, the buds plumped, and the foliage giving indications of falling. There must be no attempt at removing adhering leaves, or to cut the laterals in all at once, as that would probably cause the principal buds to start; therefore, remove the laterals by degrees and shorten some of the long shoots, preserving, however, some growth, especially when the principal leaves are down, above the buds to which the Vines are to be pruned, the final pruning being deferred until the early part of next month. The old surface soil, top-dressing, or mulching should be removed, forking any soil unoccupied by fibres from amongst the roots, taking advantage of the opportunity to raise those that are deep and lay them in fresh material nearer the surface. Good calcareous and somewhat gritty loam is the most suitable, with about a twentieth of wood ashes and a fortieth of crushed half-inch bones.

If the soil be light and gravelly add a sixth of clayey marl, dried and pounded small; if heavy, supply about a sixth of gritty matter, such as calcareous, or ferruginous or freestone chippings; if deficient in calcareous material, add a sixth of old mortar rubbish to heavy soil and chalk to light soil. Charcoal is an excellent addition in any case to the extent of one-tenth. Give a moderate watering if dry, it sufficing that the compost be evenly moist, and the roots will push fresh rootlets, especially adventitious ones, from near the collar into the new

soil, and be in excellent condition for a start when the time comes round. If the Vines are in an unsatisfactory state the border should be examined, and this being faulty either in composition or drainage, shade the house, lift the Vines, wrap the roots in wet mats, promptly remove the old soil and drainage, supplying sweet and clean in their place, relaying the roots in the fresh compost with dispatch. This will give the Vines a chance to form or make provision for pushing fresh roots, and so effect a good start.

If the roots are long and bare of fibres notch them on the under and upper side alternately, making the upper cut transversely of the root and not more than half through the root, and being done carefully will not prejudice the Vine, but induce the formation of a callus at the several points and new roots to push in due course. When lifting or renovating the border is deferred until the leaves are all down the start is not nearly so satisfactory. In the course of a few days after the lifting has been effected the shading should be removed and the house ventilated, but do both gradually, so as not to give a severe check by sudden change of circumstances.

Midseason Houses.—Vines generally have done well this season, but there has been an unusual prevalence of "rust," "scald," and "spot," probably due to the changeableness of the weather, or rather inattention to the ventilation in such manner as to counteract the prejudicial influences of its vicissitudes, and there has been more than the usual amount of shanking. Grapes, too, have been slow in acquiring colour, and some Vines unusually infested with red spider. For this pest there is no better remedy than feeding the Vines with a good all-round manure and maintaining a moisture in the house slightly charged with ammonia, especially in the latter part of the day. If the syringe be had recourse to on the first appearance of the pest—for it has a small beginning—it may generally be prevented from spreading over a whole house and without prejudice to the crop, only use clear rain water.

Sponging the leaves carefully with a weak solution of softsoap is a tedious but good practice. Thinly coating the hot-water pipes with a cream formed of skim milk and flowers of sulphur gives off fumes hateful to the pest when the pipes are heated to 170° or more, this being done occasionally, and the house closed for an hour or two on a calm afternoon or early evening. A surface mulching of rich but not close material is of immense advantage to Vines on light soils and restricted borders, with supplies of liquid manure of a sustaining rather than of a stimulating nature are essential to a satisfactory result. Fire heat may only be necessary where Grapes are ripening to secure a circulation of air, prevent the deposition of moisture on the berries, so preventing "spot," which has affected a greater variety of Grapes this season than usual. A temperature of 60° to 65° at night is ample for Grapes when ripening, with 70° to 75° by day, allowing 5° more for Muscats and other high temperature-requiring varieties, and advances of 10° to 15° from sun heat. When the Vines are carrying heavy crops the temperature should be kept rather low at night, so as to give time and rest to the Vines in order to perfect them.

Late Houses.—When Grapes are ripening they swell considerably, and require due supplies of nourishment, but it is a mistake to make the border very wet, as this may tend to defective colouring and shanking. On the other hand, stopping the supplies of food and moisture too early may result in the Grapes shrinking. All late Grapes require time. They ought now to be colouring or advanced therein, and then they, with a free circulation of warm rather dry air on favourable occasions, and a little constant ventilation, attain a fulness of berry and a perfection of finish, other conditions being favourable. Indeed, poverty of finish is the chief cause of shrivelled Muscats and others shrinking after they have hung some time. Afford a temperature of 70° to 75° by day, 80° to 90° with sun, and close sufficiently early to increase to 90° or 95°. When the sun is losing power put on enough top and bottom or side air to induce a circulation; allow the temperature to gradually cool, which rests the Vines, and increase the ventilation early with the advancing temperature. The pipes should, if necessary, have a little warmth in them to prevent the temperature falling below 65° at night, for parsimony in this respect is often costly, as having to apply fire heat late in the season is more expensive and the result unsatisfactory.

The Kitchen Garden.

Borecole and Broccoli.—The long spell of hot dry weather seriously militated against all operations in the garden, and the delay in planting Borecole and Broccoli was in some instances unavoidable. Since the rain has fallen much planting ought to have been done, and if the ground is not very poor the progress of Borecole and Broccoli ought to be rapid. Plants put out on poor ground either during the dry weather or since should be assisted with liquid manure, with a view to hastening growth in time for it to mature before frosty weather sets in.

Lettuce.—Should the autumn prove mild Lettuce from seeds sown now may attain to a serviceable size before frosts intervene. The quick hearting Cabbage varieties, such as Golden Queen, Early Paris Market, Commodore Nutt, and All the Year Round are most suitable, but the Brown and White Cos varieties may also heart-in and be of good service for storing in frames. Warm, well manured borders are the best for these late crops, as in such positions they continue

growing later, and temporary protection can be afforded whenever frost is imminent. Sow the seed thinly in drills 9 inches or rather more apart, and thin out the plants to about 6 inches asunder.

Mushrooms.—An early start should be made with open air beds, and the manure also be prepared for forming beds in various unheated structures. For ridge shaped beds a mixture of stained straw, only the longest being thrown out, and horse droppings is needed. Throw the manure together into a ridge-shaped heap, and turn it inside out every day, the aim being to get rid of rank heat and injurious gases, and yet leave plenty of "life." Treated in this way the manure is fit for making into beds in about three weeks. For flat beds not much short straw should be left with the manure. Only manure from dry fed well worked horses is suitable for Mushroom beds.

Winter Onions.—Seeds of both Tripoli and White Spanish types of Onions may be sown now. Moderately rich freely cultivated ground is needed, and the seed may be sown thinly in shallow drills 1 foot apart. The White Lisbon is the variety to sow on a large scale for bunching early.

Winter Spinach.—It is a mistake to defer sowing this important crop later than the first fortnight in August. Nor ought it to be grown on poor land. The ground should be freely manured, deeply dug, and otherwise cultivated well in advance of seed sowing, lumpy soil being particularly objectionable. Sow thinly in shallow drills 12 inches to 15 apart.

Turnips.—Much of the ground recently cleared of second early Potatoes, Peas, and Cauliflowers may be sown with Turnips. The ground ought to be got into a finely divided state and made firm, the seed being sown thinly in shallow drills 15 inches apart. Scatter soon over advancing crops in showery weather, this warding off insect attacks and hastening growth.

Potatoes.—Heat and drought caused an early maturation of early and second early varieties, and the bulk of these are quite fit for lifting and storing, this admitting of the ground being cropped with some kind of winter vegetable. When the haulm turns yellow and falls about the ground there need be no hesitation about lifting, especially seeing that this is a good preventive of disease. If the crops cannot be lifted the haulm may be drawn, and the tubers thereby saved from disease.

THE BEE-KEEPER.

Seasonable Notes.

THE excessive heat and drought of the past few weeks has not been favourable to bee-keepers. Although the temperature has been high here (South Yorkshire) there have been frequent thunder showers, which have had the effect of keeping the pastures green and the second crop of Clover to bloom freely. Supers have been finished off but not much honey has been stored. During the past few days we have passed through several of the midland and southern counties and found the pastures very brown. The honey flow must have ceased several weeks ago. Bee-keepers whom we met spoke of the past season as a most disastrous one. Those whose stocks were strong and were supered early obtained some well-finished sections from the fruit blossoms. Others were not so fortunate, and they had no surplus of honey.

The hedgerows in many places were covered with Brambles in full bloom. The bees were working freely on them as, with the exception of the flowers in the gardens which had also suffered severely from the drought, this was the only source from which honey could be obtained. Blackberry honey is dark in colour, and not of good flavour; bees, however, winter well on it. They should therefore be encouraged to store it for this reason alone. If the stock requires feeding it should be done before the nights are too cold, otherwise the bees will not carry the syrup down.

Introducing Queens.

At this season it is an excellent plan to introduce young queens to such colonies as require them. If previous instructions have been carried out there will be numerous queens in the apiary suitable for this purpose. It is important that the queen be fertile, and this may be proved by observing the number of eggs laid in the nucleus hive in which she has been bred.

There are various ways of introducing queens, all of which are more or less successful. The most simple is direct introduction. This is done by placing the queen in a box—an ordinary match-box answers the purpose admirably—and going to the hive quietly at night, turn back the corner of the quilt, and allow the queen to run down between the frames. They are then covered up for forty-eight hours, and not disturbed by handling, when in the majority of cases the queen will be found all right. It is important that the old queen is

removed before a young one is introduced. This should be done a few hours before it takes place.

Those who are nervous of this plan need not buy expensive introducing cages. We always make our own when desirous of caging the queen. Take a piece of zinc about 5 inches square, and turn down about half an inch of the edge at right angles. These edges are pressed into the comb, which forms a cage for the queen. The bees will feed her through the small holes in the zinc. If liberated in forty-eight hours the bees will usually take readily to her. If the stock has been queenless for some time there may be a difficulty in getting them to take to a queen. In such cases it is better to treat them as a swarm by turning them out of the hive, and allowing the queen to run into the hive with them.—AN ENGLISH BEE-KEEPER.



* * All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing subjects them to unjustifiable trouble and expense.

Dividing Aspidistras (W. J. C.).—The best time to divide the plants is in the spring, just before or when they are beginning to grow, as the divisions then have a better chance to form roots, and derive benefit from the new compost. They thrive in almost any ordinary garden soil, but are best grown in loam, leaf mould, and sand. We have found them succeed admirably in a compost of three parts turfy loam, leaf mould or well decayed manure one part, and half a part of sharp sand, with a sprinkling of "nuts" charcoal, the whole well incorporated. Good drainage should be provided, as the plants, especially when growing, must have plenty of moisture.

Taking Chrysanthemum Buds (D. J.).—You may safely expect that the next buds produced will appear nearly together, and they will in most cases be terminals. For large blooms select the strongest of the shoots now extending from the base of the prematurely formed crown buds which you have removed. Secure the reserved shoot carefully to its support, gradually removing all others, and watch for the buds which may appear towards the end of August, perhaps in some cases earlier, in others later. Crown buds appearing in July are of no use for producing good blooms, but any very late sort showing a crown bud at the end of July or the first days of August may be secured in full trust that a fine flower will be developed in time for exhibition. After the first week in August all crown buds formed should be carefully taken, whether they are the first produced or the second. Sometimes plants will produce a second crown bud instead of running on to a terminal. If they do so in August secure them; if not, take the terminal.

Propagating Heliotropes (P. R.).—If you wish good stock for use next season the cuttings should be secured at once. They root readily in a close warm frame or case, temperature 60° to 70°. We take them from plants in the beds, choosing well-exposed growths, not too soft nor yet hard, but crisp when cut. The extreme tips are often too soft and are then removed, and if they produce flower buds these are cut off. They are inserted an inch or more apart in a firm layer of sifted sandy soil, surfaced with pure sand, on an unsifted loamy mixture, this a little more than half filling the pots, and the whole well watered before the cuttings are taken. These are made about 3 to 4 inches long, the lower half or a little more divested of leaves, the work of preparation, insertion, and removing them to close quarters being done quickly to avert any flagging of the leaves. A light sprinkling is given to settle the sand round the stems, and the requisite shading and moisture are provided to keep the leaves fresh. In the course of a few days they will remain fresh with less shading, and air and light in gradually increasing quantities must be admitted until the plants will endure full ventilation and bright sun, both of which are essential for hardening their tissues. With plenty of space available in a light house in which a winter temperature of about 55° could be maintained, we should establish a sufficient number of the young plants separately in 4-inch pots, and these with good attention would be in splendid condition for bedding next season. Failing the requisite space we should insert five cuttings in 3½-inch pots and expect every one to grow, then winter the plants in these pots. Early in the year we should transfer them without division to 5½-inch pots, and they would afford abundance of cuttings for striking in heat in the spring, and these would make excellent plants by the end of May.

Heuchera sanguinea from Seeds (*Tyro*).—Plants from seed sown now would be small and somewhat difficult to winter, as the cold weather will be here before they become established, but if you could give the plants protection some of the strongest would afford flowers next season. It is better to sow this and other perennials in the spring, then the seedlings have a chance to become established and sturdy, so as to be capable of producing abundance of bloom the following year.

Annuals for Spring (*T. B.*).—The second or third week in August is a good time for sowing the seeds of *Saponaria calabrica*, both red and white; and *Gypsophila elegans*, *Alyssum maritimum*, and *Candytufts* may be sown at the same time. At the end of the month may be sown the *Nemophilas*, *Virginian Stocks*, *Lasthenia californica*, *Limnanthes Douglasi*, *Collinsias bicolor*, *grandiflora*, and *verna*, and *Erysimum Peroffskianum*. The ground for them should be light and good, and if at all dry be moistened prior to sowing the seeds. It is preferable to sow broadcast and thinly, covering the seeds with a little fresh soil. Thus treated the seed germinates quickly, and the seedlings grow sturdily, little or no thinning out being needed. In the autumn all will transplant readily, and will be much more hardy than those drawn up in crowded rows. The *Silenes* ought to have been sown in July, and the *Forget-me-nots*, *Wallflowers*, *Sweet Williams*, *Campanulas*, *Brompton Stocks*, and other biennials in May, and the seedlings pricked out at the present time, but a sowing of the first-named can be made yet.

Apple Margaret (*L. C. J.*).—This Apple is described in Dr. Hogg's "Fruit Manual" as follows:—"Fruit, small, 2 inches wide, and the same in height; roundish ovate, and narrowing towards the eye, where it is angular. Skin, greenish yellow on the shaded side, but bright red next the sun, striped all over with darker red, and strewn with grey russety dots. Eye, half open, and prominent, with long, broad, erect segments, surrounded with a number of puckered knobs. Stamens, median; tube, funnel-shaped. Stalk, short and thick, about half an inch long, inserted in a small and shallow cavity. Flesh, greenish white, brisk, juicy, and vinous, with a pleasant and very refreshing flavour. Cells, roundish ovate or obovate; axile, closed. A first-rate early dessert Apple; it is ripe in the beginning of August, but does not keep long, being very liable to become mealy. To have it in perfection, it is well to gather it a few days before it ripens on the tree, and thereby secure its juicy and vinous flavour. The tree does not attain a large size, being rather a small grower. It is a good bearer, more so than the *Joaneting*, and is quite hardy, except in light soils, when it is liable to canker."

Packing Grapes (*Young Gardener*).—You will find that the principal point is to pack firmly, so that the Grapes cannot move about. Boxes are preferable to baskets, and should always be closely and well filled. The depth of the box, also its width, will be determined by the size of the bunch or bunches, but need not exceed 5 inches in depth. A little sweet, clean dry moss or wood wool should be placed at the bottom of the box, then several sheets of thin (tissue) paper placed over that, lining the box with paper, and one-half the top sheets hanging free for the purpose of being folded over when the box is filled. The bunches should be laid in the box as cut, beginning at one end, placing them with the stalks upwards, as closely together as they can be, and keeping them well up to allow for settling. The larger the box the greater the care required. When the box seems full a slight shaking whilst holding it a little on one side will cause the bunches to settle down still closer, when one or more bunches can be added, or if not room for them, tissue paper may be placed in the hollow, and that filled with cotton wool. After filling the box the paper is folded over the top of the Grapes, and all the vacant spaces between the paper and the sides of the box filled with packing material. Nothing but the paper is placed on the Grapes when they quite fill the box, but if flat and too low a sheet or two of cotton wool may be placed over the paper. The lid is then screwed down.

Colax jugosus (*T. S.*).—This Orchid is of dwarf compact habit, producing flowers of great beauty, and is well deserving a place in every amateur's collection, no matter how limited the accommodation. The full height of the plant seldom exceeds 12 inches. The pseudobulbs are smooth, somewhat ovate, and about 3 inches in length; from these it produces dark green leaves, both from the top and base; the leaves are usually from 6 to 8 inches long, and about 1½ inch, or from that to 2 inches, broad. The scape springs from the base of the pseudobulb, and is clothed with large imbricating scales, bearing upon the top sometimes three, but more frequently two, somewhat globose flowers, which when expanded are about 2 inches in diameter. The sepals are very broad—indeed, almost round, and soft cream coloured; the petals are also very broad, but more oblong than the sepals, and their colour is pure white, beautifully marked with transverse bands of rich dark purple; the lip is small, furrowed, and velvety; the side lobes white striped with dotted lines of deep purple, whilst the semi-circular front lobe is also white, dotted and striped with rich velvety purple. By this description it will be seen that *Colax jugosus* is a little gem, and a plant that is not likely to outgrow the convenience of even the smallest stove; and when we add that its flowers are produced very freely during April and May, it must, we think, be acknowledged worthy of every attention from all lovers of the chaste and beautiful. We have found it succeed best when treated in every respect the same as *Cattleya Mossiae*, and, like the last-named plant, is a native of Brazil.

Adiantum Pacotti (*D. G. S.*).—You will find this Fern very useful for cutting; it is too heavy for many purposes, but it is invaluable for buttonholes. In spite of this, however, it will never supplant the old variety alluded to above, for it will not yield the same quantity of fronds. The fronds are stiff, and need no wiring. To do it well it should be grown in slightly warmer temperature than *A. cuneatum*, and every care must be taken that water does not fall upon the fronds, for they are so thick that they are liable to damp. During hot weather, when plenty of air can be given, the fronds dry quickly, and less harm is done.

Layering Carnations (*B. N. G.*).—This work should be done immediately. The plants to be operated upon should be cleared of all old flowers, and after the roughest of the surface soil has been removed a good soaking of water may be given. Next surround them with a good depth of loamy compost, with which plenty of road grit or sharp sand has been added. Select the best placed shoots, and not far from the centre cut them half through just under a joint, next cut upwards through the joint, and then peg them down firmly in the soil. If this is properly done, and a little water given occasionally in dry weather, roots soon form on the "tongued" joints, and in due course a well-rooted plant can be detached and transplanted or potted without any check being given.

Growing Malmaison Carnations for Large Blooms (*X. Y. Z.*).—The treatment accorded to the plants is correct, and we can only suggest that the potting soil is not sufficiently substantial and the feeding inadequate. Use three parts of good fibrous yellow sandy loam and one part decomposed manure, with enough sand to admit of the free passage of water. When the pots are filled with roots liquid manure should be supplied, the plants being grown in plenty of light and given ample space so as to induce and maintain a sturdy habit. A pinch of fertiliser, such as those advertised, will be highly beneficial. It must, however, be kept from the foliage, and there is danger of its injuring the roots, especially the delicate root hairs, if given too freely. This applies to nearly all fertilisers, hence some growers prefer to apply them in liquid form. Then the blooms are thinned, or rather the buds, leaving the strongest or leading growths and the primary or finest buds to develop. What is gained by large blooms is greatly discounted by the relatively fewer specimens, and this must be taken into account from a commercial point of view. Perhaps some of our correspondents will record their experience.

Treatment of Arum Lilies (*Amateur*).—Cool, airy treatment in a light position near the glass in a frame or greenhouse is the only means of keeping Arum Lilies stocky. They should not, however, be placed in any of these positions at present, but be kept outdoors until frosts are likely to occur. An entirely cool room, except when severe frosts prevail, would be better for the plants than one having a fire regularly, but you may prevent the plants growing long, to some extent by giving them all the possible light and air on favourable occasions. You acted perfectly right in placing them outdoors as you have done, and if they are moderately pot-bound they will naturally grow shorter than those having the run of rich soil. The plants do not always die completely down in summer when kept moist at the roots. Some of the largest old leaves have probably turned yellow or may do, when they can be detached. A suitable compost for Arum Lilies consists of four parts loam to one of manure and sand. Drain the pots well, and press the soil firmly about the roots. Plants in small pots, or any it is necessary to increase in size, may be repotted now, or clumps of crowns just starting into growth may be divided to any extent, and potted in sizes most suited to each.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*M. C. C.*).—1, *Argemone mexicana*; 2, *Scabiosa caucasica*; 3, *Harpalum rigidum*; 4, *Catananche bicolor*; 5, *Calystegia pubescens*; 6, *Oenothera macrocarpa*. (*A. W. P.*).—1, *Adiantum elegans*; 2, *Davallia canariensis*; 3, *Adiantum Farleyense*; 4, *Asplenium bulbiferum*; 5, *Nephrodium molle*; 6, *Nephrolepis exaltata*. (*B. C. E.*).—1, *Kerria japonica variegata*; 2, *Hydrangea paniculata*; 3, *Epilobium angustifolium*. (*S. S.*).—*Lælia elegans*. (*G. E. M.*).—1, *Lilium chalcidonicum*; 2, *Francoa ramosa*, the Bridal Wreath Plant; 3, *Spiræa filipendula*; 4, *Alströméria aurantiaca*. (*G. F. J.*).—1, Send fresh specimen; 2, *Campanula glomerata*; 3, *C. rapunculoides*; 4, *C. r. alba*; 5, *Lysimachia vulgaris*. (*E. R.*).—1, *Lonicera japonica*; 2, *Sedum spurium*; 3, an *Achillea*, send when in flower. (*M. G. R.*).—1, *Bocconia cordata*; 2, *Epilobium angustifolium album*, the white variety of the well known Willow-weed; 3, *Spiræa Billardi*; 4, *Oenothera Lamarckiana*; 5, a poor form of *Harpalum rigidum*; 6, *Mesembryanthemum striatum roseum*.

Trade Catalogues Received.

H. Cannell & Sons, Swanley.—*Sweet Peas.*
 W. Cutbush & Son, Highgate.—*Dutch and other Bulbs.*
 Dickson, Brown, & Tait, Corporation Street, Manchester.—*Bulbs.*
 E. H. Krelage & Co., Haarlem.—*Bulbs.*
 Laxton Bros., Bedford.—*Strawberries.*
 T. Methven & Sons, Princes Street, Edinburgh.—*Bulbs.*

Covent Garden Market.—August 8th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ bushel ...	2 6	to 5 0	Greengages, box ...	0 4	to 1 6
Apricots, box ...	0 8	1 3	„ sieve ...	4 6	6 0
Cherries, $\frac{1}{2}$ bushel ...	5 0	12 0	Lemons, case ...	10 0	30 0
„ $\frac{1}{4}$ bushel ...	3 0	6 0	Melons, house, each ...	2 0	3 0
„ cooking, sieve ...	5 0	6 0	Oranges, case ...	10 0	25 0
Currants, sieve ...	6 0	7 0	Nectarines, doz. ...	1 6	9 0
„ red, sieve ...	4 0	6 0	Peaches, doz. small ...	1 0	2 0
Figs, green, doz. ...	1 6	3 0	„ doz., good size ...	6 0	9 0
Gooseberries, ripe, $\frac{1}{2}$ bushel	2 0	2 6	Pines, St. Michael's, each	3 0	8 0
„ green, $\frac{1}{2}$ bushel	4 0	7 0	Plums, $\frac{1}{2}$ bushel ...	3 6	5 0
Grapes, black ...	0 6	2 6	Raspberries, 12 lbs. ...	3 0	6 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	to 2 0	Leeks, bunch ...	0 3	to 0 0
Beans, Long Pods ...	2 0	3 0	Mint, green, doz. bunches	2 0	0 0
„ French, sieve ...	2 0	3 0	Mushrooms, lb. ...	1 3	1 6
„ scarlet, sieve ...	2 0	3 0	Mustard and Cress, punnet	0 2	0 0
Beet, red, doz. ...	0 6	1 6	Onions, Egyptian, bag ...	4 0	0 0
Cabbages, tally ...	3 0	5 0	Parsley, doz. bunches ...	2 0	4 0
Carrots, doz. bunches ...	2 0	3 0	Peas, English, per bushel	1 6	5 0
Cauliflowers, doz. ...	3 0	4 0	Potatoes, cwt. ...	5 0	10 0
Celery, bundle ...	1 0	1 9	Shallots, lb. ...	0 2	0 3
Cucumbers, doz. ...	2 0	4 0	Spinach, bushel ...	2 0	6 0
Endive, doz. ...	1 6	0 0	Tomatoes, English, doz. lb.	3 0	5 0
Herbs, bunch ...	0 2	0 0	Turnips, doz. ...	4 0	6 0
Lettuce, doz. ...	1 0	2 6	Vegetable Marrows, doz. ...	0 9	1 6
„ Cos, score, from	0 6	2 0			

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Arums ...	1 0	to 2 0	Marguerites, doz. bnchs.	2 0	to 4 0
Asparagus, Fern, bunch ...	2 0	2 6	„ Yellow doz. bnchs.	2 0	4 0
Carnations, 12 blooms ...	1 0	2 0	Odontoglossums ...	3 0	4 0
Cattleyas, per doz. ...	6 0	12 0	Pelargoniums, doz. bnchs.	4 0	6 0
Eucharis, doz. ...	4 0	6 0	Roses (indoor), doz. ...	3 0	4 0
Gardenias, doz. ...	1 0	2 0	„ Red, doz. ...	1 0	2 0
Geranium, scarlet, doz. bnchs.	4 0	5 0	„ Safrano, doz. ...	1 6	2 0
Lilium lancifolium album	2 0	3 0	„ Tea, white, doz. ...	2 0	3 6
„ „ rubrum	2 0	3 0	„ Yellow, doz. (Perles)	2 0	3 6
„ various ...	2 0	3 0	„ Maréchal Niel, doz.	6 0	0 0
Lily of the Valley, 12 bun.	8 0	18 0	„ English:—		
Maidenhair Fern, dozen			„ La France, doz. ...	2 0	3 0
bunches ...	2 0	3 0	„ Mermets, doz. ...	3 0	6 0
Mignonette, doz. bunches	1 0	2 0	Smilax, bunch ...	2 0	3 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	to 24 0	Foliage plants, var., each	1 0	to 5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	„ pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each	2 6	5 0
Azaleas, various, each ...	2 6	5 0	„ pink, doz. ...	12 0	15 0
Bonias, doz. ...	20 0	24 0	„ paniculata, each	1 0	3 6
Cannas, doz. ...	18 0	0 0	Lilium Harrisii, doz. ...	8 0	18 0
Orotons, doz. ...	18 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	8 0	12 0
Erica various, doz. ...	8 0	18 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
Ferns, var., doz. ...	4 0	18 0	Roses, per doz. ...	6 0	18 0
„ small, 100 ...	4 0	8 0	Stocks, doz. ...	8 0	12 0
Ficus elastica, each ...	1 6	7 6			



The Exhaustiveness of Milk Production.

THAT the selling of milk in large quantities off the farm has a deteriorating effect upon the land cannot be gainsaid—i.e., unless considerable quantities of purchased food are consumed. The experiment station of New Jersey has for some time been taking considerable trouble in order to ascertain the cost (under various degrees of management) of the production of milk. In doing this the managers of the station have kept close records of the amount of milk produced, also the quantity of bought food consumed by the twenty-three cows of which their herd consists.

The food purchased averaged in value nearly £4 per head per annum, and this food was found to contain much more fertilising matter than the milk that was produced by its aid. The feeding stuffs purchased for the twenty-three cows contained 851 lbs. more nitrogen, 640 lbs. more phosphoric acid, and 214 lbs. more potash than was contained by the milk produced and sold. The most valuable residuum—viz., nitrogen, showed again equal to $2\frac{1}{2}$ tons of nitrate of soda, or sufficient to top-dress 50 acres of corn. As the cost for purchased food, £4 per head per annum, is not a very extravagant one, it appears that with a moderate amount of assistance a dairy herd will add to rather than detract from the fertility of a farm, and that milk production is only exhaustive when carried on in a hand to mouth way, and with no consideration for anything but the time-present. The same thing applies to many other branches of farming. For instance, the Potato crop is looked at with horror by many old-fashioned farmers as a kind of poison for the land, but if Potatoes are grown well and very liberally manured they are not only very profitable to the grower, and if not grown too frequently very beneficial to the soil. There is a twofold advantage in liberal treatment either in food to stock or manure to crops, and this is fully borne out as to the former by the results of the New Jersey experiments.

Useless Cows.

Another well-worn text is again brought into use by these statistics, which is “the great value of good and the uselessness of bad cows.” The cost of cows annually is reckoned by the New Jersey authorities to be about £8 9s. 6d. per head. We wish we could keep cows here at that price, we could afford then to sell milk at 6d. per gallon and get a good profit. The best cow at the experiment station produced 830 gallons, which at 6d. per gallon would realise £20 15s., leaving a margin of £12 5s. 6d. The worst cow produced 441 gallons, which at 6d. would come to £11 0s. 6d., leaving but £2 11s., or about a fifth of the amount left by the best cow. If the price of milk were lowered by 1d., or the price of food raised 20 per cent., the margin of the bad cow would entirely disappear, and we imagine that few British farmers could afford to keep and feed an animal which could only yield 441 gallons in twelve months. In fact a herd composed entirely of such cows would very soon weary a man of dairy farming. It is very obvious, therefore, as we have reiterated many times, that there is great and urgent necessity for all farmers who keep milch cows, whether many or few, to periodically test and keep a record of the milking properties of their animals, and draft everyone that does not come up to a paying standard of milk production.

We estimate that a cow cannot be maintained in this country for less than £14 per annum, without allowing anything for renewals, but allowing for a generous diet of home grown and purchased foods. If milk be reckoned at 7d. per gallon, and we imagine few large producers realise more, we find that 480 gallons are required to produce

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the prime cost of the cow. To make £20, which we should fix as the minimum amount to be realised from any cow worth keeping in milk, 685 gallons per annum at 7d. are required. Is it very far from the mark? Would large milk producers putting their produce on rail at wholesale prices be satisfied with anything less as an average return from each cow? We think not, and if one cow is a good one, producing much more than the specified amount but making up the deficiency of another which is not worthy of house room, why keep the latter to devour the profit of the other? No sensible farmer would do such a thing knowingly, but unfortunately many are careless and indifferent about their dairy cows, especially when the revenue therefrom goes into the coffers of the missus, and unless the latter be of an energetic and investigating mind as well as a successful agitator, they will go on milking useless cows as long as they will keep healthy, which in case of heavy fleshed poor milkers may be a very lengthy period.

When, however, the farmer has discovered which of his cows are not paying him, and has discarded them, how is he to fill their places with such as will pay? He will generally find great difficulty in doing so, for good cows are scarce and always command a ready sale. That there is money to be made by breeding cattle of first-class milking strains we are quite convinced, and we think something further might be done either by the Government, or failing it by the Royal Agricultural Society, to encourage and develop the breeding of such animals. There is no doubt that the Shorthorn, especially the Bates' tribes, contains some of the finest strains of milkers we possess, and if farmers of means were sufficiently encouraged by the offering of further and larger prizes for dairy cows at the principal shows, the evolution of the dairy cow into something more akin to perfection would be carried out as quickly as the perfecting of the great breeds of sheep have been by the Webb's, Mansell's, and Dudding's. Of course prizes for cows are offered now, such as those for butter tests at the Dairy Show, but we think enough is not done, and that farmers generally would improve their dairy cattle if their attention were drawn to the need for it by the offering of generous prizes for dairy stock. What we should like to see would be the formation or evolution of a new milking breed with, in due time, a herd book, the qualification to be milking capacity, not appearance.

Work on the Home Farm.

We have had sufficient rain to keep the root crops growing well. The Turnips we mentioned before, as being singled on the nineteenth day after sowing, are now, the fortieth day, being looked over for weeds and doubles; they are quite big enough for the work to be done well, for although drilled 26 inches wide, the plants nearly meet in the rows. We have never seen cereal crops ripen off so quickly as they are doing this season. The period between flowering and full maturity has been curtailed by at least a week, and in a few cases even more. This hurrying up must have been brought about by the severe thunderstorms, which have repeatedly culminated from the intense heat. Hot weather has always a quicker maturing effect when accompanied by a sufficiency of rain.

Crops look very bright in the straw and healthy, and we should not advocate haste in cutting Barley. The rapid ripening will reduce the weight of the grains quite sufficiently, and the samples will be rather thin and light. The crop should be allowed to mature as much as possible. A good deal of Barley has been cut rather green during the last two seasons, and maltsters have been grumbling about it. They prefer Barley naturally ripened, as it makes better malt.

Several fields of Oats and one or two of Barley are already cut in this parish. All have cut up lighter than they had been expected to do, and stackyards will not make a very full show in September. String-binders are almost universal; we have seen no other at work yet, neither have we seen a harvest hand seeking work, so it is fortunate that we have the binders. The crops all stand up well, and present no difficulties to the machines. The fat stock markets are now much fuller, and for the first time since March are the butchers having a turn. Some beautiful heifers only made 6d. per pound this week, which is not very encouraging to the grazier, but we hope the consumer will get a share of the reduction. Sheep will no doubt continue at a fair price, for the Turnip prospect is decidedly good, and there is plenty of keeping of other kinds until Turnips are ready.

The Potatoes which were sprayed, and which we really thought must have suffered damage from the rough treatment they received, have quite recovered their original promising appearance, and look

wonderfully well. The later planted fields are also now looking quite as satisfactory as we can wish. Will the London buyers be as satisfactory in their biddings when they come down in September?

Cabbage seed for autumn planting must be sown at once. There is no better kind than a good strain of Enfield Market, to be ready for the lambs when wanted next July. Drumhead is hardly forward enough, but will come in late in August and for September use. It grows a much heavier crop when well hearted, and a good practice would be to plant an equal breadth of each.

Long Rows Save Labour.—An exchange well illustrates the importance of long rows by telling of a Western farmer who had ploughed land 100 rods wide and a half-mile long. He made three fields, each 33 rods wide and 160 rods long. When planted in corn he found that his man could cultivate it the long way of the row in three days, while if going the other way there was four days' work. Just one day extra was spent in turning around at the end three times as often.

English Cultivation.—People who like to air their views about agriculture being an entirely spent force in this country—a thing of the past, as they sapiently term it—should study statistics a little more. Next to Holland and Belgium, the yield per acre of Wheat, Barley, and Oats is still greater in this country than in any other in the world. As regards Wheat alone, we are beaten by only one country—Denmark; in Barley and Oats we are beaten by both Holland and Belgium. The quality of our cattle, too, is better than that of any other country, and we still produce more meat per acre than any rival. These figures are Mr. Turnbull's carefully compiled ones. When we are inclined to be very despondent about agriculture it may be well to glance at such safe statistics.

Ayrshire Potato Crop.—Most of the shore fields are now entirely cleared, and buyers are working more inland. The recent great heat and unbroken sunshine have greatly ripened the crop and improved the quality, which is now really good. Buyers and farmers appear to be well satisfied with the season's results. The crop has lifted well. Markets have kept up, and prices are maintained. The business with buyers will now be with Maincrops. Girvan is not only the chief district for early Potato growing, but is likely to become, says a contemporary, a leading centre for the sale of stock and other farm produce. The Ayrshire Auction Company, Ltd., had several successful sales of sheep, cattle, and poultry at Girvan in October and November of last year. The sales were conducted in the manse glebe in the open, which in wet weather was against the appearance of the stock and comfort of the buyers. The Company has now erected a large mart for the sales in a field near the old railway station. It is anticipated that the mart will soon be opened for business.

Watering Places.—There is need of concerted action or a State law, says an American contemporary, for providing suitable watering places for horses along the much travelled roads. In the olden times the roadmakers, when the road crossed a brook or ran along the edge of a pond, left places where one could drive in to water the horse, and perhaps swell the felloes of the wheels if the tyres were loose; but now the brooks are bridged over to the width of the road, and the ponds fenced at the roadside to keep animals out, because the water supply for some town or village is taken from it, and it must be kept pure. This is all right when the town has provided public watering places where man and beast can quench their thirst, but when economy prevails to such an extent that these are not put up, and one may drive on a much travelled road for ten or fifteen miles without a chance for the horse to wash the dust out of his mouth, it is time that provision were made, even if we returned to the village pump and watering trough. They were very well where no brooks were available, but the pump sometimes would not work well, and sometimes the driver would not work the pump handle, and the poor horse got lukewarm and filthy water, or none at all, unless the driver wanted a drink himself.

Oat Smut.—The loss from smut in the Oat crop is said to be or to have been some 18,000,000 dols. per year in the United States. Estimates made in Kansas placed the loss for that State alone at 1,382,328 dols. in 1888, at 850,554 dols. in 1889, and 911,299 dols. in 1890. In Indiana in 1889 it was estimated at 797,526 dols., and in 1890 at 690,352 dols. In Michigan in 1891 it was estimated at 800,000 dols., and in 1892 at 1,000,000 dols. While these estimates are approximate, they are likely to be less rather than above the actual injury. They represent the percentage of crop damaged, but there is another way in which future crops are reduced by it. Seed from a field where there is much smut results in more smutty grain the next year, and if the crop is sown again on the same field, the smut will appear even when clean seed is used. By the use of 1 lb. of formalin in 50 gallons of water, the formalin costing 60 to 75 cents a pound, and simply sprinkling the seed, mixing until all are moistened and sowing seed on clean land, this trouble may be prevented. One gallon of water is enough to moisten a bushel of Oats, so that the cost of treatment need not exceed a cent, and a half a bushel. If the seed is to be drilled in, it should be spread and dried, but this is not necessary when it is to be sown broadcast.—("American Cultivator.")

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Journal of Horticulture.

THURSDAY, AUGUST 16, 1900.

The Poet Cowper as a Gardener.

DURING April of this present year people of British and other nationalities were celebrating the centenary of the poet Cowper, who died in the last year of the eighteenth century. A man he was of varied gifts, one whom it is impossible not to admire and love, though he stands not on the highest pinnacle amongst our poets. He had numerous employments besides writing verses and letters, one of these was gardening, and he seems to have been no mean amateur, considering his limited opportunities in the Georgian age.

With a frankness that is charming, he tells the public in verse and his friends in prose, a good deal about what he grew, and the methods he pursued. Also he had a keen eye for what was beautiful or curious in the gardens of others when his shyness allowed him to inspect these. No doubt the employment had a soothing effect upon Cowper, and, to some extent, it engaged his attention all the year round through a good part of his Olney life. Many of his metrical compositions were produced in his greenhouse, one of the olden sort without a glass roof, which he lined with mats, and used as a summer parlour, when the plants were placed outside. This greenhouse he built himself, and speaks of it with slight exaggeration as an affair Lord Bute's gardener could carry off on his back; he had also another, which he calls a summer house, the smoking-room of some 'previous tenant. This also was a receptacle for plants at times, possibly in summer as well as in winter. "Who loves a garden loves a greenhouse too," wrote the poet; he would have loved much more many (though not all) of our modern conservatories, but his modest structure gave him real enjoyment and light occupation.

In 1783, June 8th, he writes to his friend Unwin that our severest winter, commonly called the spring being over, the plants were out, and

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he had taken possession again of his recess, the greenhouse. "In such a situation, so silent, so shady, where no human foot is heard, and only my Myrtles presume to peep in at the window, you may suppose I have no interruption to complain of, and that my thoughts are perfectly at my command. But the beauties of the spot are themselves an interruption, my attention being called upon by those very Myrtles, by a row of Pinks just beginning to blossom, and by a bed of Beans already in bloom." From one of his short poems we get the fact that the Pink referred to in this quotation was also one of the numerous flowers Cowper nurtured in his greenhouse during winter:—

'Tis a bower of Arcadian sweets,
Where Flora is still in her prime,
A fortress to which she retreats
From the cruel assaults of the clime:
While earth wears a mantle of snow,
These Pinks are as fresh and as gay
As the fairest and sweetest that blow,
On the beautiful bosom of May.

But the Myrtles Cowper speaks of were surely special favourites. He actually offers a lady a fresh wreath of Myrtle daily if she would come and live near him. He mentions the plant as one he cultivated when he was a student of law in the Temple, and, in after years, gives a friend exact directions about its management. Amongst other cautions, he says, "Never give your plants spring water, and supply them every other day. At Michaelmas take them out of the pots and remove all the mould you can without disturbing the roots, replacing by fresh." Occasional allusions to the Rose, Jessamine, and Honey-suckle indicate his liking for these, and when commenting upon the contrast in style between the gardens of Anne and those of his period he refers to the old fondness for a Gothic porch crowned with Honey-suckle. Again, in a letter of September, 1784, penned in his greenhouse, he notes that the garden he surveyed was as full of flowers as he could make it, but he was specially charmed by a bed of Mignonette near the window, which seemed to draw all the bees of the neighbourhood. He liked what he calls the "Frenchman's Darling," and which he had seen growing in small well-like gardens of Central London years before.

Though seldom so designated, the Olney mansion of which Cowper was the tenant bore the name of Orchardside, his garden being edged by Mrs. Aspray's orchard on one side and on the other by a row of small cottages. Through this orchard was a near cut to the vicarage, and, while Newton lived there, Cowper paid a guinea yearly for the privilege of passing and repassing. What trees grew there we do not know, probably some Apples, Buckinghamshire yielding a good supply of this fruit; Cherries, also, it may be, as the holding of a Cherry Fair yearly in Olney would indicate the county produced its share of these. That Cowper had a few fruit trees in his small domain is likely; visitors for many years were shown a Ribston Pippin planted by Cowper, and slips of it were eagerly sought after. Mr. Wright, the latest biographer of the poet, says this tree has now disappeared, perhaps it has shared the fate of Shakespeare's Mulberry and been bought by some speculator, who has cut it up into fragments to dispose of as relics. One of the curious facts brought out by Mr. Wright's biography is that the poem on "Yardley Oak" refers to a tree in Yardley Chase which is hollow, and that the tree formerly called Judith, and of late years "Cowper's Oak," at Yardley Lodge, though well known to, and admired by Cowper for its grandeur, is not the subject of his poem. Judith is now 32 feet in girth at 5 feet from the ground; it has huge protuberances; near it is another of rather less size. These are now styled Gog and Magog.

When Cowper's health prevented him from following business pursuits, he came to regard gardening as one of the employments to which he could devote his time. Writing to his friend Hill from Huntingdon, in 1766, he states he had commenced gardening work; having a large place to display his abilities, "he studied the arts of pruning, sowing, and planting, being also prepared to enterprise anything, from Melons to Cabbages." Only the next year, however, the death of Mr. Unwin led him to remove to Olney, where he

exercised his skill in the smaller garden he has made so familiar to the readers of the "Task," where it figures prominently. Allusions to it are frequent also in minor poems and many letters. Shy as he was, it led Cowper into communication with other persons fond of horticulture, some at a distance, leading to friendly interchange of seeds and plants. When Cowper had a visit from Lord Dartmouth, in 1777, he showed his old schoolfellow his garden, and, amongst other things, a flower he had just raised from a few seeds given him, which he thought one of the most elegant he had ever seen. This was the Browallia, a stove plant from Peru, then new in England, named, it appears, after Browallius, Bishop of Aboa. The transfer of seeds sometimes gave Cowper an opening for a bit of fun, as in the sending of a Cucumber to a friend at a distance, with the riddle, "This is of my own raising, yet not raised by me." The friend could not solve it, the explanation being that he had raised the Cucumber because he grew its progenitor, though the fruit he sent had come from a gardener to whom he had given seeds.

Writing about his kitchen garden work, Cowper states that he advanced by stages, starting from Cauliflowers and Lettuces to reach Cucumbers, Melons, and Pines. One of the books of the "Task" contains an amusing and exact description of his proceedings in growing Cucumbers. The frame in which Cowper grew his first Pines was put together and glazed by himself, an achievement of which he was somewhat proud. He did not mind fatigue or trouble if his plants needed attention; thus he mentions having gone on many a winter's night into the cold wind, or through snow, to give attention to the little fire which warmed his greenhouse, going as late as possible lest the temperature should fall before morning. Afterwards he managed to have this heated by a subterranean flue, so that he did not need to leave the house. In several letters he remarks upon the value of bark and dead leaves as a means of supplying heat to plants in frames.

One of the poet's occasional treats was a visit to some neighbouring garden of greater extent than the humble one that gave him pleasant employment at home. A notable place he delighted to visit was Gayhurst (fig. 39), remarkable for its Orange trees, its range of hothouses, and its extensive flower beds, where one season he saw a grand show of Tulips. He made his first visit there in September, 1779. One of the singular circumstances connected with it is that the church stands in the garden of the mansion, specially interesting as being nearly the last work of Sir Christopher Wren. During Cowper's life it belonged to the Wright family; about 1882 Gayhurst came into the possession of J. W. Carlisle, Esq.; the surroundings are lovely, and may well attract the excursionist. Indeed, the old name is expressive of its beauty, Gayhurst, or Gotehurst, is stated to have been originally Goddeshurst, the hurst or forest of God. Gayhurst House was famous for its secret chambers, hiding places, and trapdoors; it was built in three distinct periods, the oldest part being Early Tudor. Many a gardener has read with keen interest the "Garden," that portion of Cowper's great poem which discusses particularly the subject of gardening, though it is also touched upon in other divisions of the work. A good deal of speculation has arisen connected with some plants or trees he names, his knowledge of these being popular rather than scientific. For instance, his "Spangled Beau Ficoides" Professor Williamson regards as a Mesembryanthemum, and he thinks Cowper's Amomum is the Jamaica Pepper, Myrtus Pimenta.—J. R. S. C.

Botanical Nomenclature.—Our botanical works are praying for some new Adam to arrive who will give names to flowers that everyone will recognise. In regard to the scientific names they thought they had it "down fine" when, in the time of Linnaeus, they established a set of canons which every orthodox botanist, it was supposed, would obey. After a century of trial it was found that the laws agreed upon had not been observed. There has become a revolt, and a sort of go-as-you-please practice is prevailing. One author issues a book with one set of names, another a book with a different set for the same plants.

Floral Photography.

How rare is a good photographic picture of a flower! The representation of flowers and trees by means of photography is an art but very little understood. True enough that thousands and thousands of plates are exposed on such subjects, but the effort of the many would-be photographers are not very satisfactory in their final results. As a matter of fact, floral photography presents greater difficulties and more special problems than almost any other branch of the art. Thus, for instance, colour, which is an essential feature in the make-up of most flowers, presents great difficulties in proper translation into the photographic tone; every device of advanced photography and skilful ingenuity of the adept practitioner are called into use for the proper reproduction of plant forms in anything like life-like values in grace of composition and illumination, especially the latter.

But floral photography is receiving more attention nowadays, and of recent date many more or less pretentious articles have appeared in the photographic press and also in other publications. Yet to the students these have all been disappointments. The fact is that very few practitioners appreciate the problems which arise, and whatsoever

have often had to argue the case with "artists" in the photographing of subjects for the press. As to the claim often made that the flowers have a tendency to follow the sun during the time of exposure, no such thing has ever been experienced. While orthochromatic plates are recommended as far better than ordinary ones, a ray filter, we learn, is not an advantage save for deep orange and blue shades. This is so, because the best isochromatic plates are already quite sensitive to yellow and repellant to blue, and the use of even a weak ray filter, in conjunction with them, would be likely to render, say, a bright canary yellow about as densely as a pure white!

In the matter of backgrounds, to which little or no attention is given as a rule, the operator is advised to have several pieces of cardboard, the full 22 x 28 size, or larger if possible, these cards to be both white and dark. The mounting card known as "carbon black," is most excellent as a dark surface; and a large shaded "Rembrandt" mount will also be found of much utility. The backgrounds must be free from gloss, else one has an extra trouble on hand when there are sufficient other items of bother. A dark grey cloth of rather smooth, even texture—as serge or flannel, or, what is even better, felt—forms a very useful background; but it must be so kept as to be free from sharp folds. One of the very first things the flower operator needs to do is to photograph the various backgrounds, or pieces of



FIG. 39.—GAYHURST, OR GOTEHURST, A FAVOURITE RESORT OF COWPER.

successes are attained are the result of fortunate accident rather than skilful manipulation. The floral photographic artist can be no mere beginner in photography; hence the uselessness of cumbering up such special instruction with the elementary principles.

Mr. J. Horace McFarland, who, says "American Gardening," stands in the enviable position of being, if not the leading exponent of plant photography, at all events one of the very few men who are on the top in this special branch of work, and it is in reference to a recently published monograph from his pen that we are led to reflect on the present status of floral photography. In "Photographing Flowers and Trees,"* that gentleman gives the public the first really complete treatise on the subject, and stepping from precept to practice, demonstrates the truth of his words by ample illustrations of such difficult subjects as groups of Pansies, Dahlias, and Tulips from his own negatives. He also has a few selected specimens of other artists' work, G. H. Woolfall, Henry Troth, and W. J. Cassard, the last of whom has a splendidly lighted study of the Paper White Narciss, incorrectly called the Poet's.

As a lens for floral work, a medium wide angle has been found to be "by far the most generally serviceable for all parts of flower photography, outdoors and indoors," which is contrary to the general preaching. The merits of the argument are of a too technical nature for notice in this place, but we agree with the author, and

them, all together, so that a comparative view of their various tone values may be had.

Several of the best workers lean strongly to either pure white or dead black backgrounds—the former obtained by white cardboard and the latter the result of the use of black velvet. While these adepts get some charming effects with the violent contrasts thus afforded, the novice is advised to study first the neutral grounds—arising from the use of the grey cloth above suggested, and then to work also with the shaded "Rembrandt" card, before attacking the white and black effects. The shaded or neutral grounds are richly artistic, they are far more easily reproduced by half-tone if typographic use is ever made of the photograph, and they give a vast field for interesting graduated effects by varying the lighting.

The representation of red flowers is surrounded with all sorts of difficulties, as a look over a few portraits of such things as Roses or Pæonies will easily satisfy anyone. The chemical value of the colour makes it rendering in proper illumination value a stumbling block to most. Mr. McFarland in order to overcome this uses an extra local light, which is directed right into the flower by means of a mirror or other suitable appliance. This is a hint that should interest our readers, but it is only one of many that they may gain from a study of this little thirty-four page treatise.

The practice of photography is becoming more and more intimately connected with the garden, and young gardeners will find it a most interesting and instructive hobby.

* Photo-Miniature, Vol. II., No. 13, April, 1900. Price, 25c. (Tennant and Ward, New York.)



Outside the Arena.

FOR the last few weeks the queen of flowers has held undisputed sway. The Journal dedicated a special number to her honour. Rose champions entered the lists at the Crystal Palace in friendly contest, none the less keen on account of its friendliness, and at various centres in the country the annual war of the Roses has been pursued with its accustomed vigour. But the campaign is over, boxes and stands must be put aside for another year, and warriors of the Rose war will have ample time to ruminate over the disappointments and successes, of which most exhibitors get their share. It has not been an ideal season from an exhibitor's point of view, and better National shows have been held, but we have had to take it as it was, and in spite of some unfavourable climatic conditions, flowers as near perfection as we can hope to get them have been seen.

The Fascination of the Rose.

In this respect I think the Rose has a mystic fascination which few other flowers possess. Its possibilities are great, and its surprises numerous. You may grow a Chrysanthemum, for instance, and know that all depends on culture, and unless a certain line of treatment is followed you cannot hope to obtain any results above the commonplace. But the Rose is not bound down by any such laws. It has a way of its own of producing perfect blossoms in the most unlooked for places, and Roses good enough to win a medal may often be seen in the miniature collections of amateurs who never have the slightest pretensions to appear as exhibitors. This brings me to the gist of my remarks. I have no intention of writing a review of the Rose season, abler pens than mine will do that, but I would like to call attention to the vast number of Rose growers and Rose lovers who never exhibited a flower in their lives, and so far as the show board is concerned they are distinctly outside the arena.

The Planets and the Stars.

Exhibiting undoubtedly brings fame to the rosarian, and every year when the report of the N.R.S. Show appears in these columns well-known names come before us, and we feel a sort of familiarity with the amateurs and trade growers whose names are household words in the world of Roses. These are the planets as it were, and round them the stars are studded in the persons of growers of all sorts, some with hundreds of plants, others with only half a dozen. Rosarians they are, though the world knows them not; they aspire to no fame in the show arena, but are content to plod on, growing Roses for the sake of the flower alone, and being repaid by the pleasure derived from the occupation. This is the sort of hold that the queen of flowers has on a great community, and to fully realise it one has only to leave the highways and linger in the byeways of Rose gardens, where the flowers are grown without a thought to prizes or awards.

A Rosarian in Corduroy.

I could point to scores of typical cases, but for the present one will suffice. It was the home of a labourer which I had occasion to visit recently, and the old rambling cottage standing back from the road seemed to be nestling in a bower of Roses. A fine old Maréchal Niel rambled round the window, a Gloire de Dijon wandered over the porch, and on the end wall was a William Allen Richardson covered with bloom. Could any Rose expert get anything better? I wondered, and just then, in the pink of condition, there were many flowers up to medal form. And the rosarian—what of him? Well, he appeared shortly afterwards—an individual in corduroy trousers and shirt sleeves, fresh from his work on the farm close by. The mention of Roses broke down all reserve, and there was no need for me to talk. Along either side of the garden path was a row of standards representing many first-class varieties. Each Brier had been dug from the hedgerow and huddled with his own hands. And the varieties? Well, the man confessed that he had been lucky there, for the parson was a Rose grower, and had supplied him with buds of his best sorts. On the far side of the garden, sheltered by the protection of the dividing hedge, was a row of standards for huddling. The man eyed them critically, and thought they would soon be ready, and the parson had promised him a few huds of sorts he did not possess. When I asked him why he grew so many Roses he did not seem to know. He supposed it was because he was fond of the flower, and he liked to think that every plant he had was of his own raising. He had never been to a Rose show in his life, one reason being that they

always came at his busy time, and all that he had ever done in the way of exhibiting was at the village flower show. Distinctly outside the arena is this man, but a rosarian nevertheless, though his fame is purely local, and all that the world sees of his work among his favourite flowers is by the glimpse taken over the garden hedge.

Budding by Cottagers.

It is interesting to observe how many Rose budders there are in the country, and the work seems to hold out a fascination for cottage growers. I could not say with any certainty how many cottage gardens I have been in where the pathways have been bordered with standard Roses, worked by the occupier of the unpretentious establishment. I have watched heavy-booted labourers striding home with bundles of Briers on their shoulders, obtained from the hedgerows, and to be transplanted to the garden ready for huddling, and without ever having read a line on the subject or receiving a lesson beyond what they picked up by watching others. Many of these amateur Rose budders are highly successful. I think the finest standard Gloire de Dijon Rose I have ever seen stands in front of a cottage window. It was budded some years ago by the present owner, and has done so well that when in full bloom it is an object of admiration for all who see it.

The Roses of our Forebears.

So much for the florists' Rose, as it is treated at the hands of obscure growers, but in the wayside gardens you also see the Roses of a past decade, growing and blooming in profusion, unknown by any distinctive name, but just Roses, bushes that the grandmothers picked bouquets from in their girlhood, and to all appearances like Tennyson's brook, destined "to go on for ever." There is the old York and Lancaster, which never fails to bloom, the big red Cablage Rose, the white, which is not much when opened, but delightful in the bud, the Moss Rose of ancient type, and the Sweetbrier, which scents the garden after a shower of rain. What have they to do with shows, these old world flowers? Nothing; they are outside the arena entirely, but they bloomed and flourished long before many of the gems of the H.P. and Tea sections existed at all, and their fame, if ever they possessed any, belongs to a past decade before Rose shows were thought of, and when the creations of the hybridist were unknown.

Non-exhibiting Worshippers of the Rose.

A Crystal Palace show is a fine illustration of the Rose grower's skill and the raiser's art. It is the meeting place of enthusiasts of the first order, the hattle ground of strivers after cups and honours, and no one after visiting it would question the popularity of the queenly Rose; but as I have endeavoured to point out, there is a power of rosarians outside the show arena, comprised of rich and poor, who, though they never compete for a prize, give place to none in their affection for the Rose; and supposing that competition ceased to exist, and exhibitions became a thing of the past, there is an army of Rose growers now outside the arena numerous and enthusiastic enough to uphold the popularity of the queen of flowers.—G. H. H.

More Parsley.

How often this request from the kitchen department strikes a sort of terror into the heart of the gardener when, as it often happens from a variety of causes, in the winter season particularly, his stock of Parsley is low and weak. Then, curiously enough, the order will come not seldom more imperiously, more insistently, and the poor gardener is at his wit's end to keep up the daily supply. He dare not let it be known to the culinary department that his stock is low, because, such is the contrariness of domestic affairs, that, as every gardener knows, once it is found out that he is running short of any one crop, even though he may have had abundance previously and they have tired of it, so sure will the demand for that particular vegetable become more and more urgent until the man is well nigh driven to distraction.

It would be amusing if it was not so irritating, because of the bold front the gardener has to put on occasionally to throw his masters off the scent, and declare that—"Oh yes, there's plenty of that!" He has to "assume a virtue if he has it not," and so get out of the difficulty by a little innocent finesse. Of course, every thoughtful and onward-looking gardener adopts all sorts of plans to circumvent the wiles of the culinary chiefs, and to have something of everything coming on at its season, and according to demand all the year round; and to the credit of our profession, so skilfully does the gardener adapt himself to his surroundings that he very seldom fails in producing in his department all that is required of him. Still, "the best laid schemes of mice and men a't gang a-gley," and that leads me to say that with me one of the ways I have adopted to secure a good supply of

winter Parsley is by utilising a large, rough frame I have of about nine or ten lights used in the spring to advance the supply of early Potatoes by a week or two.

As soon as the Potatoes are well off, say in early June, I occasionally use it to raise some small seeds of plants that may be wanted, and that will come off soon, and about the end of July or beginning of August, or up to the middle of the month. I then sow a certain number of lights with Parsley, in drills 9 inches apart, and the other lights with Tom Thumb Lettuce and broad and narrow leaved Endive. By this means I secure a good breadth of Parsley and strong plants of Endive, some to plant out and the rest remain. The frame is left quite open until the frosts come, and then the lights are put on, but tilted so as to give plenty of air, and left so night and day till the frosts get more severe, when they are put down but raised in the day in favourable weather. In the depth of winter a few mats are thrown over them at night. By this means I get a splendid supply of Parsley which can be got at in all weathers, and, therefore, I am not much afraid of the order of "more Parsley!" which with me has been a "large order" in the winter season for many years.

One of my great difficulties with Parsley in the open is the disease which attacks the roots of Carrots and Parsley in some gardens. The Journal's excellent scientific microscopist gardener, Mr. George Abbey, a short time ago, most ably and graphically described the disease, and indicated the remedies; but though I have adopted some of them I have not been able as yet to get as clean a bill of health, either as to Carrots and Parsley, as I should like. Hence these contrivances; I just give the hint now, as it may strike some brother gardener who is in like fix, and enable him to meet the order for "more Parsley" with cheerfulness and satisfaction.—N. H. P.

Walk Edgings.

WHATEVER may be the merits of the various articles used as edgings to walks, it seems the general opinion that one of Box stands pre-eminent; and whether we take it for its hardihood, durability, or general appearance, as a live edging it would seem the first in its class. Nevertheless, there are places where it is inexpedient to have Box, places where neither that nor anything else will grow, and places where it almost refuses to grow from a dislike to the soil. Now, though I advocate the use of Box in all cases where it will thrive, unless other circumstances render another edging necessary, I will, nevertheless, advert to other kinds for the special purposes for which they may be wanted.

From time immemorial edgings for paths have been deemed requisite for appearance, and in some respects for stability. The various Roman causeways which intersected the cultivated parts of this country during the time that people held possession of it have all a row of larger stones at the edge than in the centre, showing that "an edging" was not unknown at that early period; and from them down to the present period some sort of margin seems to be considered necessary to all sorts of pathways, be that a turnpike foot-road, a street pavement, or the more humble crossing that carries the cottager from his backdoor to some outhouse. To all an "edging" of some sort seems requisite, and all have their edgings accordingly.

Box Edgings.

Like many other plants, more noticed perhaps, the Box has divided itself into varieties, differing in their dwarf or robustness of habit, the extremes being denominated "tree," and "edging Box;" but, independent of these extremes, there are (as in most other things) intermediate kinds, too coarse for edging purposes in many places, though not in all; and in those situations where the very dwarfest kind refuses to grow, this stronger growing one may be introduced to advantage. Whichever may be used, be sure that all the edging planted in one place be all of a kind; for though we advocated cutting and trimming, yet the jagged and very uneven growth that takes place when the dwarf and robust are intermixed, or what is equally bad, half one and half the other, in the same line, renders it necessary to be very exact in having it true. I will not here go into the details of planting, which are well known, but merely say that I cut but little (seldom any) of the top at the time of planting. It is likewise necessary to be careful that the ground on which it is planted be all alike in quality, and not to have the roots of one piece luxuriating in the rich soil of the kitchen garden squares, and another struggling for existence amongst the hungry gravel and other substances the walk may be made of. These matters are often neglected, and the edging presents afterwards a diversity of growth not to be wondered at when we consider the circumstances in which it was placed. It is scarcely necessary here to point out the best season for this duty, for it rarely happens that any regard can be had to that; I have planted at all seasons, but prefer the month of April. Whenever it is planted

in dry weather, it should have the advantage of water for some time afterwards, and it will seldom fail to grow, even when its roots have been much curtailed. In moist, cool districts, large quantities are often put in without any root at all. The middle of the growing season is the worst for planting, but I have done that in a case of necessity, and been tolerably successful.

Notwithstanding the reputed hardihood of Box, I have seen it show more signs of suffering from spring frosts than many things supposed to be more tender. Some frosts we had in the early part of one spring, followed by a bright sun, "cut up" the tender growth of Box edging on the east side of those lines which run north and south, and were exposed to the morning sun. This I suppose to be owing to the cold air floating nearest the ground, and the sudden exposure to unclouded sunshine after. Nevertheless, we need not be afraid to plant it in exposed situations; for, though it suffered severely, and for some days was quite black, still it recovered itself without any portion falling a victim to the ordeal to which it had been subjected.

Trimming Box.

I have heard it said, "There cannot be any good gardening where Box edging will not grow." From this I entirely dissent, as I have seen an excellent and well-kept garden, where, after repeated trials, in which the Box perished piecemeal, its use was given up, and a dead edging, I believe of timber, substituted in its place. This proves that there are some soils which do not possess in sufficient quantities the necessary ingredients on which Box lives, or some which it dislikes; consequently, after dragging out a miserable existence, it dies, piece after piece, until the edging becomes no edging. It would be difficult to describe the precise kind of soil the Box dislikes, but I may say that where Sorrel is found very abundantly it is often a proof that the Box will not be at home there; while I have seen it thrive on a sandy soil that would almost drift before the wind, and it thrives equally on a retentive loam.

Though it cannot be planted at this season, yet it may be successfully trimmed into order, which is a point equally necessary to its general appearance. For this purpose damp, dull weather is the most suitable time. Its mutilated leaves are not then subjected to the scorching influence of the sun until a partial recovery takes place; and the same may be said of those interior leaves which, having been long concealed, are not able to bear exposure to hot sunshine with impunity. By cutting Box at this season a part of its summer's growth also will be retained, which will look well the remainder of the year.

Other Edgings.

As I have before said, every walk ought to have some visible edging or margin whereby its outline is distinguished from the ground which adjoins it. Even the back paths or thoroughfares ought to have boundary marks to denote how far they ought legitimately to extend; these, however, had better be either brick or stone of some sort sunk in the ground. Common bricks make a very good edging, laid either edge or endways up, where traffic is supposed to pass over them; but they look best when laid angle-ways up, like the ridge of a house, and if done carefully they are remarkably neat. Rough stones or flints will do in certain situations where there is not much traffic to displace them; but in a wilderness or other romantic situation they are the most proper; while in the precincts of the mansion or dressed grounds a prepared kerbstone, or something that represents it in the terra-cotta or plaster way, will doubtless be preferred. The increasing uses to which the last of these has adapted itself will most likely lead to many pleasant forms of edging and other ornamental work, so that we have no doubt but the others will eventually be driven out of the market. Slate may be used in some places, and so likewise may cast iron; but the first is too thin to look well, and the last liable to many objections—not the least being its expense where perhaps a mile of it be wanted. I am aware that in a kitchen garden many live edgings are turned to profit, or intended to be so, but their disorderly appearance more than counterbalances any good likely to be derived from them. I have seen Thyme, Hyssop, Pennyroyal, Strawberries, Parsley, and many other things all employed for that purpose; but, excepting the last, it is seldom any good is derived from them.—GARDENER.

English Cultivated Clovers.—It is interesting to remark what Darwin, in his great book, "The Origin of Species," has to say about bees and Clovers. According to him the common hive bee, whose hum is such a pleasant feature of these summer days, does not get any nectar out of the red Clover, but plenty from the incarnate. He asserts that the bee cannot reach down deep enough into the former, which is open only to the humble bee. It would appear to the superficial observer that fields of red Clover are visited and ransacked of their sweets by myriads of bees. Darwin, however, as an observer of insect and flower life, is not an authority to be flouted. One would like to hear the views of practical bee-keepers on this subject.

Tomatoes in Winter.

OUTDOOR Tomatoes that are nearly ripe on the approach of frost will doubtless be gathered and suspended in warm houses. That fruits cut in a green state and ripened in heat are scarcely so good as those left on the plants till nearly or quite ripe I readily admit, and in any case it is advisable, where possible, to grow a few plants for fruiting during the winter and till more are raised and fruited next spring. I had a few late-raised seedlings which, about the middle of July, were shifted into 13-inch pots and set in a sunny position. Early in August half of a house was cleared and the Tomatoes introduced. The growths were thinly trained over the roof and all side shoots kept rubbed out. At the present time several fine clusters of fruit are set on each plant, and, all going well, good fruit will be cut from them throughout the winter.

Tomatoes, in common with winter Cucumbers, are all the better for having a good and early start, and rather than have to commence now with young plants newly rooted or seedlings I would much prefer to put new life into a few old plants in pots. These may be freely cut back, this inducing the formation of numerous strong young growths, which soon arrive at a bearing state. A shift into fresh pots is not necessary or advisable, but much of the old surface soil may be picked away from the roots, and good turfy loam, with Mushroom-bed refuse in equal quantities, and a liberal addition of superphosphate of lime added. If the start has to be made with either cuttings rooted in gentle heat or seedlings, they may first be potted off in pairs in 6-inch or rather larger pots, and from these, before they are drawn or root-bound, shifted into 12-inch pots.

A moderately good loamy compost, or say a mixture of two parts turfy loam to one of either leaf soil or old horse droppings, best suits them, and they ought to be potted rather firmly, a good space being allowed for a top-dressing later on. In whatever manner the plants are prepared, or whether old or young plants, it is unwise to plant them in a rich mound of soil, as much heavier crops are obtained from plants in pots set on a bed of fairly rich soil. Either old Melon or Cucumber beds are capital sites for Tomatoes in pots, the latter being set nearly on the surface, or only just deeply enough to bury any side drainage holes there may be. The roots soon take possession of the food supply in the bed, while the pots act as a check to rank unfruitful growth. Any without this available rich root-run will require much more liberal treatment in the way of top-dressings, plenty of water and liquid manure, and if well attended to in this respect will produce remunerative crops.

Training and Temperature.

It is not from want of good attention, however, that many fail with winter Tomatoes, but rather from being over-zealous. They either give too much heat or too much manure, or perhaps the two together, the result being very rank or abundant growth, accompanied with few or no fruits. Near to the glass the plants ought always to be grown, and thinly, and on no account should much manure be given at the outset. First get a good crop set, and then feed away to your heart's content is my advice and that of other experienced men. There is no real necessity to confine a plant to a single stem, especially when the roots have access to a bed of soil and manure underneath. On the contrary, several branches may be laid in provided each has good space and is kept free of all side shoots. These main branches ought to be trained fully 12 inches apart, and supposing the plants are set near the centre of a long low roof, as in our case, the shoots may be taken both up and down from the same plants. When it is desired to grow Bouvardias, Poinsettias, forced bulbs, fine-foliaged plants, Ferns, or other plants under the Tomatoes, the main branches of the latter ought to be trained not less than 18 inches apart, and if rank foliage is formed this also should be slightly reduced in size, or everything underneath it will be unduly shaded. In any case all superfluous growth should be removed as fast as it forms, but it is unwise to stop the leading growths while there is roof space that may be covered.

Many persons succeed in covering their roofs with fine, healthy plants, every detail but one being well understood. Where they err is in maintaining a higher temperature than is needed or suitable for Tomatoes. Stewed up in a house, more suited as far as temperatures are concerned to Pine Apples, the trusses of flowers are certain to be weakly and devoid of pollen, and a good set is an impossibility. The other extreme, or a greenhouse temperature, is also to be avoided. I find a fairly well heated house is needed, much the same amount of fire heat being given as ordinary stove plants are supposed to require. This, however, must be accompanied with air, little or much according to the external temperatures, some being left on all night in mild weather. This favours the production of

strong flowers, and which, if smartly tapped towards midday, or even syringed, rarely fail to set.

At the present time not less than 9 inches of top ventilation is left on the Tomato house every night, but less will be given in colder weather, or when we wish to forward the fruit more rapidly. I am no great stickler for very regular or even temperatures either by night or by day in the fruit houses generally, but always prefer to let them drop somewhat, rather than heat the pipes excessively. I hold that the temperatures for Tomatoes may safely range from 45° to 60° by night, with an increase in the daytime of from 5° to 10°. A house kept at these figures does not need to be damped down often, nor the plants syringed in order to keep down red spider. If the most troublesome pest, a small white fly known as *aleurodes*, is prevalent, nothing but frequent and gentle fumigations will rid the plants of it. When fumigating care must be taken not to use too much hot coal or coke in starting the smoke, and on no account should it be allowed to burn strongly, or all the flowers expanded and perhaps some of the buds will be crippled.—PRACTICE.

Autumn Sowing of Hardy Annuals.

HARDY annuals sown during August and early September are among the most effective of spring flowering plants. Grown and treated in this manner the plants are usually stronger, better rooted, more bushy in character, and above all freer in flowering than the same species and varieties sown in spring. Hardy annuals are easily raised from seed, but the most difficult part of their cultivation lies in preserving them through the winter. To effect this end in the best manner it is important to commence well with the seed sowing, so that from the first strong plants may develop.

For autumn sowing it is advisable to choose a position that is warm, dry, and open, and one that is not subject to rough winds, exceptionally scorching sunshine, or sudden frost. Taking all things into consideration, a gently sloping western aspect is best where the soil is well drained. The ground should be in good heart, but not too full of rich manure. If fairly deeply worked and in a fertile condition the application of manure will be unnecessary. Recently dug light soil should be made firm, treading it well to effect this when moderately dry. Make it fine and even on the surface, drawing off all rough stones with a rake.

The seed of all the species of annuals to be recommended for autumn sowing should be sown in drills. Where a border can be set apart the space may be divided into beds 4 feet wide. The drills may be drawn not less than 6 inches apart, either across or lengthwise of the bed. Should the weather prove hot during the last week of August the soil will be too dry for sowing. After the drills are drawn it is an excellent plan to moisten them thoroughly prior to sowing the seed. The moisture will be retained for a long time, sufficiently so to induce rapid germination of the seed, thus promoting an early and vigorous start.

The seeds will be better sown as thinly as possible, and as soon afterwards as the seedlings have attained some size the first thinning must be given. Carry out the thinning to the extent of removing the plants as they touch each other until they stand at least 4 inches apart. Some of the stronger growing which seem inclined to be bushy may stand farther apart with advantage. Crowding during winter is fatal to success, inasmuch as crowded plants will hold and retain moisture. A plant standing alone becomes wiry and strong, and is able to resist the inevitable changes of temperature, while the constant circulation of air about them prevents the accumulation of moisture, which often causes more destruction than cold or frost. With well spaced out plants the hoe may be used freely on suitable occasions. This tends to promote growth.

The majority of the plants will not attain large dimensions before winter, which is an advantage. Small plants with firm or woody stems pass through the vicissitudes of the dead season much better than overgrown specimens.

Annuals which may be sown now include Candytuft. It grows to the height of 12 inches, and has white, purple, and crimson flowers; *Collinsia bicolor*, 9 inches high, lilac and white flowers; *Collinsia grandiflora* is taller growing, being 12 inches high, the flowers dark purple; *Erysimum Peroffskianum*, 18 inches high, orange coloured flowers. Larkspurs produce various coloured flowers. The dwarf Rocket varieties, which grow 18 inches high, are the most suitable to sow now. *Eucharidium concinnum*, lilac purple; *Viscaria cardinalis*, rose and crimson; and *Whitlavia grandiflora*, violet, are all a foot high when fully grown. The following are 6 inches in height:—*Limnanthes Douglasi*, yellow and white; *Nemophila insignis*, blue shades and white; *Saponaria calabrica*, rose; and *Virginian Stock*, crimson red and white. *Nemophila atomaria*, white and black spots, and *Saponaria calabrica alba compacta*, white, are 4 inches in height.—E. D. S.

**Cypripedium Sander-superbiens.**

This, "W. R.," was the first *Cypripedium Sanderianum* hybrid (fig. 40) to appear, and it was exhibited by Mr. Norman C. Cookson at the Agricultural Hall on August 29th, 1893, under the above name, and received an award of merit. The other species employed was *C. superbien*s, and the credit of the cross belongs to Captain Vipan, the hybrid having been raised by Mr. Cookson from seed supplied by the former. It is a beautiful and distinct form, the flowers being of great size, and remarkable for the very long, drooping petals, which are double the length of the lip. They are pale yellow in colour, heavily blotched with chocolate. The lip is brownish red, and the dorsal sepal, which is pointed, greenish white with chocolate lines.

Oncidium incurvum.

Where fragrant Orchids are esteemed this should be accorded a place; in fact, it is worth a position in any collection, however limited. Its small mauve and white flowers are produced on a branched slender stem 3 or 4 feet in length, more than 2 feet of its length being covered with flowers. One good spike or two will perfume the air of a moderately sized house, and are most effective either for decoration or cutting, as the spikes are light and droop gracefully. It thrives well either in a pot or basket, the former being preferable if stage room is plentiful; if not, it can be most successfully cultivated in a basket suspended from the roof.

If grown in pots they should be filled at least half full of drainage, for it is essential to make provision for the water supplied to pass away freely. If the soil is allowed to become sour or saturated, this Orchid soon presents a yellow sickly appearance which is unnatural to it, for when doing well the foliage is deep green in colour. The material used for potting should be peat fibre, which, if good, will be found to last in a healthy condition for several years. Charcoal in lumps may with advantage be used, and a little living sphagnum moss on the surface. The roots evidently like the moss, and are not long before they take full possession of it; but it is not wise to use it mixed with the peat for potting, because it decays too quickly and cannot be removed without disturbing the roots of the plants too much, and therefore causing an unnecessary check annually. When the moss is used only on the surface the majority can readily be removed when repotting or top-dressing the plants that may be grown in the same house. Potting and top-dressing is best done just as signs of growth are visible.

When the roots are active and the growth luxuriant, liberal supplies of water should be given, but the supply must be gradually diminished as growth is being perfected. The supply in spring must

also be as judiciously increased as the growth progresses. During the resting season very little water is needed; in fact, only sufficient to keep the pseudo-bulbs fresh and plump. If the soil about the roots is kept in a moist condition during the resting period they are very liable to perish, and in addition the plants do not receive a complete period of rest. This is essential if they are to bloom profusely and grow luxuriantly the following season. The longer the season of inactivity the better the plants flower and grow afterwards. A fair amount of light should be given, or the foliage draws up rather weakly. The amount of shade frequently given to *Odontoglossums* is rather too heavy for this *Oncidium*, but this can easily be managed by placing the plants of this variety in the lightest position the house affords.

Light towards the close of the summer and in early autumn is of vital importance to mature the pseudo-bulbs that have been made.

This Orchid flowers freely in a young small state, but it is surprising how flowering retards the growth and progress of the plants, and therefore it is unwise to allow them to flower until they attain some strength. The flower spikes are a very long time developing, for they frequently make their appearance in spring, and five or six months usually elapse, under cool treatment, before the flowers are fully expanded.

Vanda teres.

Vanda teres is a beautiful Orchid, and though it troubles some cultivators a little to secure its health and the production of flowers, yet there are not so many failures now as there were a few years ago, indeed with some growers it thrives quite luxuriantly. A more suitable system of culture has been adopted, no doubt in a great measure due to the advice of experienced orchidists, and the plants are not so severely dried now as formerly. They are placed in a warm, light corner, the pots covered with sphagnum kept constantly moist, so that the growth is made freely and rapidly.

The typical *Vanda teres* was found by Dr. Wallich in Sylhet, where it was grown on trees; it was also subsequently found by Mr. W. Griffith in the Burmese Empire, similarly on trees; and by Mr. Gibson near Pondooch at the base of the Khoseea hills. Several very distinct varieties have been obtained from time to time, but one of the most notable is *V. teres Andersoni*, which has large flowers of a very rich colour. The best example of this variety I have seen was imported by a friend, and it was then 4 feet high, as much in diameter, and of globular form. Over 200 racemes

had been counted upon the plant, some of which had as many as six flowers each, and it can be imagined that it is literally a mass of flowers.

In ordinary varieties the sepals are nearly white, the petals flushed with crimson, the lip bi-lobed at the apex, which is regularly streaked with crimson, yellow in the centre, with radiating lines of crimson dots, and two large lateral incurving lobes also veined with rosy crimson. A variety appeared some time ago that was nearly white, and which has been named *candida*. A third well-marked variety is *V. teres Aurora*. The sepals and petals are broad, the former white, the latter delicately tinged with rose and twisted in a more marked manner than in other varieties. The lip is of a soft rosy hue, the veining being less distinctly marked than is usual in *V. teres*.—

ORCHIDIST.

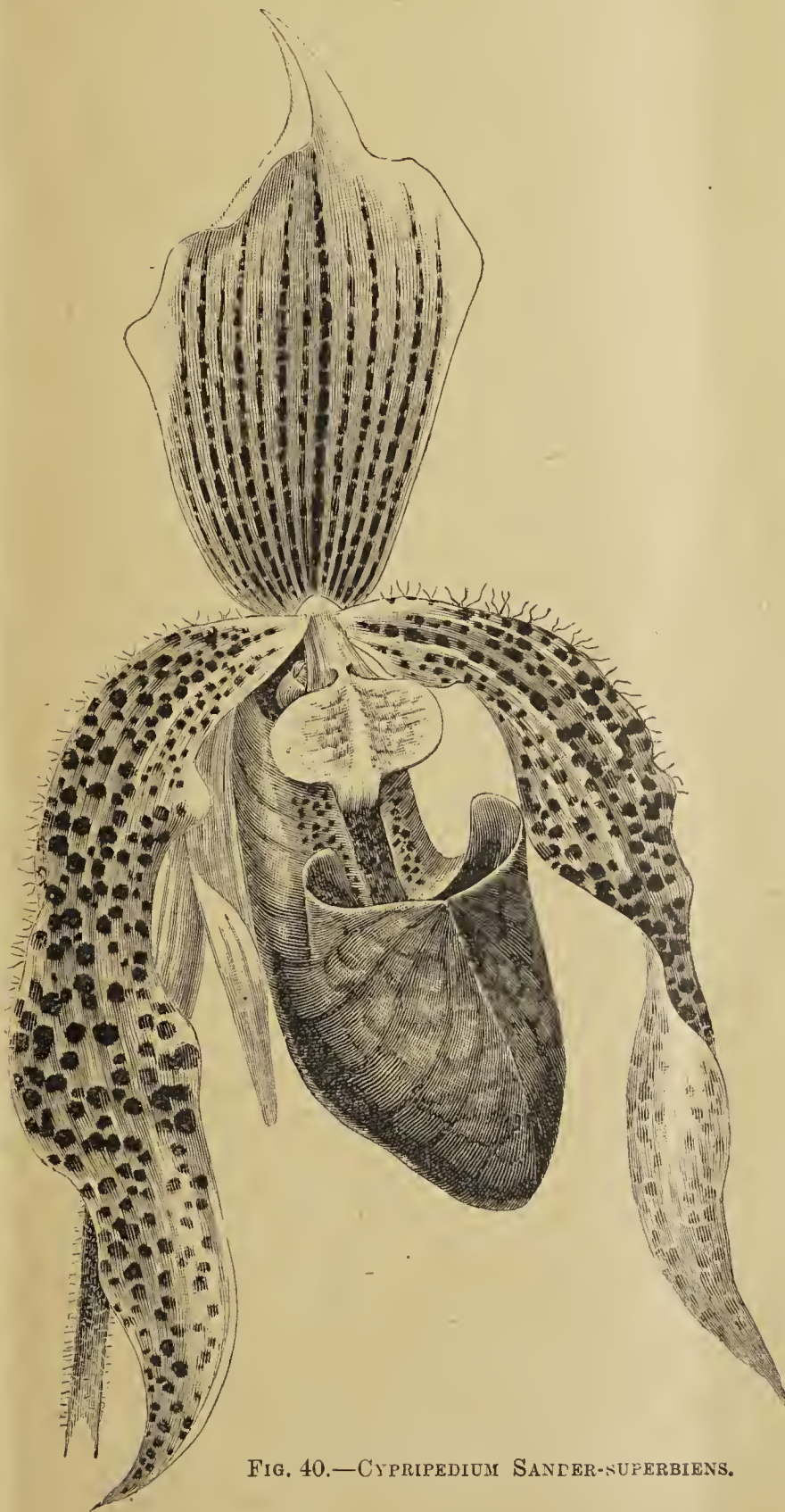


FIG. 40.—CYPRIPEDIUM SANDER-SUPERBIENS.

The Cultivation of Peaches.

(Concluded from page 100.)

A SUITABLE soil for Peaches is a rich loam inclined to be retentive rather than very light and porous. If the loam be naturally rich no manure should be added. After planting a dressing of well-decayed farmyard manure will keep the roots moist and greatly assist the tree in its growth. When planting young trees it is a great mistake to mix partly decayed manure with the soil, as it is apt to favour the production of large sappy wood and no fruit. I append a good selection of Peaches arranged in their order of ripening.

Alexandra.—A large, handsome, and richly coloured fruit; flesh juicy and sweet; ripens about the middle of July.

Waterloo.—A fine American Peach of medium size, and valuable on account of its earliness. I have not been altogether successful with it under glass, but it is a splendid outdoor Peach; ripens about the middle of July.

Hales' Early.—A great favourite of mine both outdoors and in the houses; of medium size and handsome, it is one of the best. It ripens at the beginning of August.

Dr. Hogg.—Good both outside and inside; large and richly flavoured fruit; ripens at the beginning of August.

Grosse Mignonne.—One of the best midseason Peaches in cultivation, either for forcing or open air culture; fruit large and highly esteemed; ripens at the end of August.

Royal George.—One of the best known Peaches; it is well adapted for forcing; a free bearer, and a good outside Peach; it has the fault of being subject to mildew; fruit large and of excellent flavour; ripens at the end of August or at the beginning of September.

Noblesse.—A valuable variety; fruit exceedingly juicy and rich; forces well, and is a good outdoor Peach; ripens at the end of August.

Violette Hâtive.—One of the hardiest in cultivation, and forces well; very prolific, the fruit being rich and excellent; ripens about the middle of September.

Barrington.—A large and excellent sort, ripening about the end of September; a vigorous grower and a good bearer.

Sea Eagle.—One of the best late Peaches; large and highly flavoured fruit.

Princess of Wales.—A valuable late Peach with very large fruit, which ripens the end of September.

Other varieties could be named, but my endeavour has been to enumerate fruits which will ripen from the middle of July to the end of September, and thus extend the season as long as possible.

Of Nectarines, or smooth-skinned Peaches, I also name a few in order of ripening.

Lord Napier.—A large and handsome variety that ripens early in August; the fruit is tender, rich, and of an excellent flavour; one of the largest and best Nectarines.

Stanwick Elruge.—A seedling raised from a cross between Stanwick and Elruge; ripens about the middle of August.

Violette Hâtive.—A good variety for either outdoor culture or forcing; ripens at the end of August.

Humboldt.—A very highly coloured and richly flavoured fruit; free bearer; ripens early in September.

Pineapple.—A rich, exquisitely flavoured Nectarine; ripens at the middle of September.

Victoria.—An excellent late Nectarine; ripens about the end of September.

Other good varieties are Dryden, Elruge, Hardwick Seedling, Pit-maston Orange, and Spencer.

The worst enemies of these kindred fruits are aphides, but now that such good insecticides are procurable no harm need be done by them. When a tree is infested with fly of any kind the leaves begin to curl, and if not attended to at once will turn yellow and fall. Among other injurious insects are *Anarsia lineatella*, a small moth which in spring or early summer deposits its larvæ on the tips of the leaves or branches; the maggot plays havoc by boring into the growths and eating the pith; the autumn brood eats into the fruit. Earwigs and ants are destructive of ripe fruit. The former may be trapped by laying pieces of hollow Bean stalk among the branches, looking over them frequently, and destroying those found within. The ants can be reduced in numbers by pouring hot water into the nests or dusting soot amongst them; chalk also they will not pass. Red spider and thrips can both be kept down by occasional applications of XL All, using 1 gallon to 40 of water, and by the frequent use of the syringe through the growing season. Mildew should be promptly attacked with flowers of sulphur.

Peach borders should never be allowed to become dry, though at certain times more water will be required than others. In making a border old mortar rubbish is an excellent thing to mix with the soil, as it will help to keep it sweet, and also assist the fruit during the stoning process. I have only referred to the cultivation of fruit under glass very briefly, as my principal object is to try and revive the

outdoor cultivation of the Peach, and secure it its proper treatment. I am certain that anyone who has command of any protection, and will give it a fair trial, will be perfectly satisfied with the result. No plants can be grown successfully without care, and everything worth growing is worth growing well. In the preparation of these notes I had recourse to several authorities, especially to Mr. Simpson's work on Peach culture, and to all of these I would tender my acknowledgments.—(Paper read by Mr. G. CARPENTER, West Hall, Byfleet.)

Pyrethrums.

THERE is no question that single Pyrethrums are preferred to the double varieties for their simplicity and brightness of colour, the florets exhibiting the striking distinctness of tint around the golden disc with an elegance of form which renders them useful when far in advance of the double varieties. The effect of the single forms when in a mass is very striking, and they lose nothing by being seen under artificial light. In brief, the single Pyrethrums are in early summer what the single Dahlias are at a later period, not the least of their charms being their handsome Fern-like foliage, and they are even hardier and more free growing than the double varieties. If the single varieties are beautiful—and they have only to be grown to be appreciated—the double varieties are indispensable in every garden for producing a grand effect in June; whilst for cutting they are invaluable, whether for associating with other flowers in vases or as specimens in glasses. The flowers are far more handsome than Asters, albeit they are not rivals, as they come in so much earlier and are in June what the Chrysanthemum is in November.

Pyrethrums will not grow in every soil or in every position. In a wet or heavy soil they will not succeed, and in shade or in shrubbery borders they are useless. It is no use planting in a wet soil without first draining it, or where the soil is heavy without making it porous by the addition of old lime rubbish, sand and gravel; nor in shrubbery borders unless the situation be sunny and the soil not permeated through and through by the roots of the trees and shrubs. Pyrethrums like a good friable loam and liberal treatment, watering with liquid manure freely in dry weather. In autumn a top-dressing should be given of decayed manure or thoroughly decomposed matter from the rubbish heap, and in March it may be neatly panted in. Early in May a good watering should be given if the weather be dry, and the surface mulched with manure a couple of inches thick, with good supplies of water or liquid manure once a week unless the weather be wet. When extra fine blooms are desired the stems should be thinned as soon as they show their flowers, leaving the strongest and most promising only. After flowering remove the old stems, and the second growth will be strong, some of it continuing to give flowers in late summer up to frost. Slugs are very partial to the growths, eating them off within the ground during the winter. Where these pests abound it is a good plan to remove the soil about the crowns in autumn, dusting with quicklime, and apply a layer of sharp ashes.

Propagation is effected by division in the spring. Each part taken off with a portion of roots will grow if duly attended to with water. The rootless portion may be potted singly and plunged in ashes in a cold frame, kept close and shaded from sun until established, when they should be gradually hardened. The best means of propagation, however, is by cuttings in the summer directly after flowering, at which time the plants form fresh growths. Take off each cutting with a portion of the root stem, and insert it to the base of the leaves in light sandy soil in 3-inch pots, plunging them in ashes in a cold frame, keeping them moist and shaded, damping them every morning through a fine rose. A little ventilation may be given in dull weather, and when rooted and growing freely gradually harden them. The plants so raised may be placed out in September in prepared beds or in the borders, or they may be wintered in a sheltered position plunged over the rim of the pots in ashes, transferring them to the flowering quarters in spring; but the plants are best put out as soon as they are well rooted, allowing 18 to 24 inches between them.—G.

An Immense Fire.—The Athens correspondent of a daily contemporary writes:—"Skalossia, the finest and most extensive Pine forest in Greece, situated between Mount Pendelicos and the Laurium, has been completely destroyed by fire. The conflagration burst out suddenly, and spread with such rapidity that in little time the whole of the immense forest was ablaze. A force of 250 soldiers and firemen were sent to the spot, and by their efforts the fire was prevented from spreading to the adjacent forest of Pendelicos. It is estimated that over 600,000 trees have been destroyed."

NOTES & NOTICES

Recent Weather in London.—On Saturday we had the first indications of the coming of the second heat wave from America, where it has been so serious in its effects. Sunday was very warm, the thermometer registering 82° in the shade, as it did again at 1.30 P.M. on Monday. Tuesday, too, was very close, but it was tempered by a delightful breeze. It was a little cooler at the time of going to press on Wednesday.

A Gallant Fight.—In the letter appearing on July 19th entitled "A Gallant Fight," and relating to the contest between Mr. Hill Gray and the Rev. F. R. Burnside for the Tea challenge trophy, the name "Spectator" was erroneously appended for the signature so well known in these columns of "D., Deal."

The Vitality of Seeds.—A very unusual experience has occurred in connection with the recent good fall of rain in the Ahmednagar district, says the "Pioneer" (India). It seems that in many fields seed which was sown last year has now begun to grow. Usually seed which does not germinate soon after planting dies; but the soil has been so dry in the recent drought that it kept the seed uninjured, and when the needed moisture was supplied the seed has germinated.

Devon and Exeter Horticultural Summer Show.—Bad weather and Exeter Flower Show, which was held on August 3rd, keep company. The Devon Bee-keepers' Association held its exhibition in conjunction with the show, having 86 entries, as against 119 last year. Messrs. R. Veitch & Son, Royal Nurseries, Exeter, had a capital display. A broken rockery formed the centre of their stand. The rocks contained many choice alpine plants, and in a miniature pond were some grand Water Lilies. The Cannas and Carnations shown by Mr. W. J. Godfrey, of Exmouth, filled a large place in the marquees, in conjunction with hothouse plants and cut blooms. Roses were fair, Mr. Walters, of Mount Radford Nurseries, having some good blooms. Mr. F. C. Fowle, Devon Chrysanthemum Nursery, Teignmouth, had Sweet Peas. The chief prizetakers were Messrs. Smale, Torquay, and Tuplin & Sons, Newton, Dahlia blooms; and Messrs. Barnes, F. Lock, and W. Rowland tables, completely arranged for dessert for eight persons, with in the general section Messrs. Brock, Farrant, H. Hammond Spencer, and Sir J. Shelley.—C. B.

Unfortunate Flower Shows.—August Bank Holiday has generally, from its first institution, enjoyed such a good reputation for its weather that gradually flower show committees all over the kingdom had begun to regard it as safe as the Bank as a proper exhibition day. It is unfortunate when a good reputation cannot be well maintained, for now Bank Holiday has lost caste altogether, having on the 6th broke out into a fit of wild intoxication, raining torrents, blowing great gales, and showing a really ferocious disposition. Certainly, we have seen flower shows on wet days previously, but rarely when they have been such failures, so deserted and sodden. Talk about enjoyment! It was a day in which that most eccentric of all individuals, Mark Tapley, may have revelled, but it made the average man, to put it very mildly, most unhappy. Now and then we have read of flower tents coming to grief; but these were rare events, and regarded as not unpleasant incidents when proceedings became monotonous. But on Bank Holiday the record, not in tent-pegging, but in tent-felling, was completely cut, for not only did these useful coverings come down in all directions, but equally from every locality where a flower show was being held did there come a report of the local disaster in the belief that such was the only one, when, lo, and behold! it was found that each show ground had sought to rival its compeer in the nature of its failings, the fall in tents being without parallel. But there is worse behind the weather and its vagaries. For too many societies such a Bank Holiday must have spelt ruin. How truly with all these earnestly hardworking anxious bodies, the executives, we can sympathise! They will find it hard to surmount the pecuniary losses involved, especially that they have also lost faith in the weather reputation of the August Bank Holiday. But then it can hardly ever be so wild and foolish again for a generation.—A. D.

Honey Guides in the Dark.—There is a hypothesis, though scarcely satisfactory to some thinkers, that certain colour spots or lines in flowers are provided as guides to the nectaries of honey secreting flowers, in favour of insect visitors. But the arguments against this are often as weak as those in favour thereof. For instance it has been asked how the night-flying insects make use of honey lines in the dark! But surely nocturnal insects are supposed to see as clearly by night as the diurnal do by day.

Paris Street Trees.—Wide streets and handsome street trees help largely in the fame of beautiful Paris. But the success of the trees is due to intelligent oversight by the authorities. Even with this admirable protection, the average life of a Paris street tree is found to be but half that of those growing in the environs. Of kinds, the following have been found best suited to the conditions of Paris, preference being given in the order named:—Horse Chestnut (which is much the best), Plane, Ailantus, Locust, Linden, and Paulownia.

The London Parks.—This has been a very trying time for the floral gardener. Very rarely have the London parks shown to less advantage at this season than they do just now. The tropical heat and drought and then the deluges of rain and the tempestuous winds have, for the time, quite baffled the gardener's skill, and imposed immense labour upon him to get things into order again. Battersea Park is usually among the showiest and the most beautiful in August. This year it is singularly uninteresting. The water in the lakes looks muddier and more unattractive than ever, the really beautiful waterfall is rarely to be seen with even a trickle of water running down it, and the flower beds, even apart from the damage of storms, are decidedly below par. We do not know whether there has been any falling off in the strength of the staff, but the gardens have the appearance of severely economical management. There is one indication of short-handedness that is much to be regretted. None of the flower beds this year are labelled with the names of the flowers and foliage plants contained in them. To amateur gardeners this detracts very much from their interest.—("Daily News.")

The Future of Chiswick Garden.—We learn that the Royal Horticultural Society has appointed a sub-committee to visit and inspect various sites that have been suggested or offered for the new gardens in place of Chiswick. It is probable that at no very distant date a selection will be made, and the old garden will be surrendered to the ground owner, the Duke of Devonshire. What will become of it is, of course, at present undecided. The builders have got their eyes on it, and it is understood that an important London club have been turning their attention to it with a view to setting up a fine club building to stand in its own grounds. The Chiswick local authorities have also set their hearts upon it for an open space for the public. It is true that the neighbourhood has Turnham Green, and Kew Gardens are not far distant. But the green is not much of a public pleasure ground, and Kew Gardens are not a playground. If it is possible for the public to get this fine addition to their breathing spaces, they can hardly do wrong in securing it, and it can scarcely be doubted that this disposal of the land will be most favourably considered by the ducal owner.

Acocks Green Horticultural Society.—The tenth annual show of this enterprising society, held on August 6th and 7th, was marked on the whole by a material increase both in entries and in several respects quality of the exhibits. The chief features in the show were the groups of plants arranged for effect, and Mr. J. V. Macdonald, gardener to G. H. Kenrick, Esq., Whetstone, Edgbaston, repeated his last year's successes with one of his artistic and elegant compositions. The second prize was awarded to Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Edgbaston, and the third prize fell to Mr. E. Burden, Kings Heath. In the class for six stove or greenhouse plants the first and second prizewinners changed places. Mr. E. Burden was third. Exotic Ferns were finely shown by Mr. A. Cryer. Zonal Geraniums, Fuchsias, Coleuses, Gloxinias, tuberous Begonias, Pentstemons, Carnations and Picotees, hardy perennial cut flowers, and annual cut flowers were all well shown. Hand bouquets were tastefully arranged by Mr. J. V. Macdonald and Mr. W. Moseley, Solihull. Roses were not numerous shown. For twenty-four blooms Messrs. Perkins & Sons, Coventry, were adjudged the first prize in an easy fashion with excellent blooms. Fruit and vegetables were well exhibited, and many examples were of a high order. In the non-competitive exhibits Messrs. Kelway & Son sent a fine collection of Gladioli.

Kingston Gardeners' Association.—On July 26th a party of the Kingston Gardeners' Mutual Improvement Society spent a most enjoyable day inspecting the establishment of Messrs. Sutton & Sons at Reading, and in the afternoon visiting Park Place, the beautiful residence of Mrs. Noble at Henley. The establishment in the Market Place was explored from basement to roof. After this brakes conveyed them to the Portland Road Nurseries, and subsequently to the trial grounds, where the firm had provided lunch. Both the nurseries were inspected with much interest. The party subsequently drove to the railway station, taking the Abbey ruins and the Forbury Gardens *en route*. On reaching Park Place Mr. Stanton was found waiting to show the visitors this splendid garden, which is equipped and managed in such excellent style. Many members of the visiting party practise on a light burning soil, and it was a pleasure to see a garden upon which the drought had had comparatively little effect. The time passed all too quickly, and the visitors set their faces homewards, passing down the beautiful "Happy Valley" and across the river to Henley, reluctantly bidding farewell to Mr. Stanton and his genial foreman. —JOHN T. BLENCOWE.

Syston Horticultural Exhibition.—A show of all-round excellence was held in this pretty Leicestershire town on August 9th, but, unfortunately, the weather was wretched throughout the day, and it speaks volumes for the interest taken in the society that so large a number should have braved the elements. Mr. J. T. Main, the hon. sec., and the energetic committee had made a special effort this year to make the show a great success, which it was in all respects except the weather, and who can fight against that? In the absence of Lady Sarah Wilson, of Mafeking fame, the show was opened by Capt. Wilson. Collections of vegetables were shown in grand condition. The champion of the open class was Mr. J. Hudson, Hinckley Road Nurseries, Leicester, his Onions, Tomatoes, Leeks, Potatoes, and Celery were products of the highest excellence; the whole collection, too, was beautifully staged. The same exhibitor was also first for six "Geraniums" with finely grown plants. Mr. J. Wright, Leicester, won for six Fuchsias, and Mr. Tyler, Stonegate, Leicester, for four Coleus, and for stove and greenhouse plants Mr. Robertson, gardener to Lady Sarah Wilson, staged the only group shown, and was awarded the first prize. Mr. J. Smith, Loughborough, was first for twelve bunches of flowers, and Mr. C. Warner, Leicester, won for twelve Cactus Dahlias with a very fine stand, which contained good blooms of the beautiful Arachne, Mr. Carter Page, and Firebrand. Mr. Smith also won for two bunches of Grapes with well coloured Gros Maroc, and for Tomatoes with large fruits of Perfection, which showed rough eyes, while beautiful even samples in the same class were placed second and third. This was clearly an error of judgment.—H. D.

King's Norton Horticultural Society.—The seventeenth annual show was held on August 6th in a field adjoining the charming grounds at The Dell, the residence of G. E. Bellis, Esq. The class for groups of plants arranged for effect was confined to one exhibit. Mr. J. Palmer, gardener to J. Earle, Esq., King's Norton, was the exhibitor with a tastefully arranged example. Specimen stove or greenhouse plants were capitally shown by Mr. J. Palmer, who was awarded the first prize. For three exotic Ferns Mr. T. Pass, gardener to W. Kentish, Esq., was first. Mr. L. Arnold, gardener to E. Baker, Esq., was awarded the first prize for three specimens of Zonal "Geraniums." Coleuses were remarkably well shown by Mr. J. Palmer and Mr. L. Arnold. Palms were represented by Mr. J. Palmer with very good specimens, also for three stove or greenhouse plants. Begonias were creditably shown by Mr. L. Arnold and Mr. J. Grantham, gardener to A. V. Hughes, Esq. For twelve Roses Mr. J. Grantham was awarded the first, and Mr. A. Duckworth the second prize. For twelve trusses of Stocks Mr. L. Arnold and Mr. J. Grantham were the winners. For a collection of hardy perennial cut flowers Mr. T. Pass and Mr. E. Winchester were adjudged the winners. Mr. J. Grantham was responsible for Cactus Dahlias. Floral decorations for table centres formed a pleasing feature; the first prize was secured by Mrs. D. S. Pritchett with a tasteful arrangement. Fruit was of a limited extent, and Grapes were not represented. In response to Mr. R. Sydenham's offer of prizes for nine bunches of Sweet Peas, Mrs. M. A. Smithson was awarded the first prize for a very fresh and bright assortment tastefully arranged in glasses. The second prize was secured by Mr. J. Walby, and the third by Mr. E. Winchester. Vegetables were well and numerous shown by gentlemen's gardeners, amateurs, and cottagers alike.

Journal of the Royal Horticultural Society.—Vol. xxiii., part 3, of this publication has just come to hand, and contains amongst other valuable information papers on "Scale and Mealy Bug," by R. Newstead; "Growth of the Fruit Trade," by G. Monro; "Fruit Growing in South Wales," by J. Basham; and "Experiments in Potato Growing," by J. S. Gordon. Particulars are also given of the new Charter and the new Bye-laws. The price to non-Fellows is 5s., and it may be obtained from the Secretary, R.H.S., 117, Victoria Street, Westminster, S.W.

Extraordinary Rainfall.—Mr. W. D. W. Griffith, Trefnant, Denbighshire, writes:—"A good many reports have appeared of the exceptional rainfall of the last week, but I have not seen any record coming up to the fall here on Friday, August 3rd. From 9 A.M. to 6 P.M. that day 3.25 inches of rain fell, and 3.50 inches in the twenty-four hours ending at 9 A.M. on Saturday the 4th inst. This is quite an extraordinary rainfall for this district, by no means a rainy one, our average annual rainfall for the last ten years being 31.80. We have not had anything approaching the quantity in the time during the over eighteen years I have kept a record. We have had some other heavy falls during the last week, notably 0.94 on the 6th inst. and 1.18 on the 7th; while the total fall for the first seven days of August amounts to 6.22 inches. Our height above sea level is 447 feet."

Scientific Inspection of Cereals.—A party of professors from the different universities and colleges of the kingdom paid a visit of inspection last Thursday to Messrs. Webb & Sons' Kinver trial grounds and seed farms, where were to be seen the most famous varieties of Wheat, Barley, and Oats from foreign countries growing side by side with the most perfect examples of new kinds, the result of cross-fertilisation and high selection this country has hitherto produced. The party consisted of Professor Parry, University of Wales (Aberystwith); Professor Blandell, Royal Agricultural College, Cirencester; Professor Wallace, University of Edinburgh; Professor Middleton, Durham University; Dr. Hunter, Edinburgh; Mr. Biffen, botanist, Cambridge University; and Professor McAlpine, Glasgow, besides several practical agriculturists. These experts gave very protracted and comprehensive examination into the numerous features of plant culture submitted to them. There were no fewer than 155 varieties of corn alone, the largest collection to be found in any trial ground in the kingdom. The utility of high selection was abundantly proved by finer ears and stouter straw having been imparted to some of the old Wheat, such as Golden Drop, but the marvels of cross-fertilisation were especially apparent in an entirely new variety of white Wheat, whose plump corns have only the thinnest skin-coating, while they are exceptionally close-set in the heads. Among the seventy-five sorts of Oats which came under view there was not one that apparently surpassed in heavy yielding, the Bosworth variety, but Dr. Hunter gave the palm to Newmarket, on the ground of its superior milling quality. According to the Dalmeny experiments, he said this Oat had surpassed all other kinds in yielding the greatest weight of flour. Some of the Barleys from countries so far distant as China and Egypt were curiosities, and the "Naked" varieties were regarded with interest, together with that excellent malting variety Kinver Chevalier.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900. August.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
Sunday.. 5	W.S.W.	deg. 57.5	deg. 53.7	deg. 60.8	deg. 47.2	ins. 0.10	deg. 61.3	deg. 62.9	deg. 60.9	deg. 40.9
Monday.. 6	S.S.W.	57.8	55.2	63.0	49.5	0.22	60.5	62.2	60.7	41.2
Tuesday 7	S.S.W.	60.4	54.2	65.5	53.4	0.14	59.7	61.5	60.5	46.8
Wed'sday 8	N.N.W.	56.4	53.8	63.6	51.0	—	60.2	61.2	60.2	44.8
Thursday 9	S.W.	58.8	54.5	60.0	51.2	0.26	60.2	60.9	59.9	45.7
Friday .. 10	W.N.W.	56.9	53.6	61.9	53.7	0.02	59.5	60.7	59.8	51.8
Saturday 11	N.W.	59.7	55.9	72.0	48.6	—	59.2	60.3	59.7	42.8
MEANS ..		58.2	54.4	63.8	50.7	Total 0.74	60.1	61.4	60.2	44.8

During the first part of the week the weather was very stormy, the latter part being warm and bright.

Royal Horticultural Society.

Drill Hall, August 14th.

THE exhibition on Tuesday was the smallest that has been held for some considerable period. Though small, it was brightly attractive, and comprised many particularly beautiful exhibits. Orchids were shown in very limited numbers, but fruit, especially that from Mr. Kelf, was good.

Fruit Committee.

Present: Philip Crowley, Esq. (in the chair); with the Rev. W. Wilks, J. Willard, J. Cheal, W. Poupert, G. Kelf, W. Pope, H. Esling, A. Dean, S. Mortimer, G. T. Miles, G. Woodward, H. Markham, G. Wythes, W. Crump, W. Farr, H. Balderson, F. Q. Lane, G. Norman, and G. Bunyard.

Mr. G. Kelf, gardener to Miss Adamson, South Villa, Regent's Park, contributed a collection of fruits chiefly from pot trees grown within two miles of Charing Cross. The fruits were equal, and in some instances superior, to those produced beyond the radius of the metropolitan smoke. The Grapes included Buckland Sweetwater, Black Hamburg, and Foster's Seedling; Melons Blenheim Orange and Sutton's Al; Plums Jefferson's, Cox's, Emperor, Kirke's, Early Transparent Gage, Reine Claude d'Althann; Peaches Barrington and Bellegarde, with Nectarine Early Rivers. It was a most creditable exhibit, that added greatly to the excellence of the show (silver-gilt Knightian medal).

Mr. H. Markham, gardener to the Earl of Strafford, Wrotham Park, Barnet, showed a dozen bunches of Black Hamburg Grapes, eight of which were from Vines planted by the late Mr. Wm. Thomson of Clovenfords just over half a century ago; the berries were of good average size, and of excellent colour. The remaining four bunches came from a Vine planted in 1785, and again the berries were of fine colour. This Vine was raised from a cutting taken from a Vine which was sent from Holland in 1710 by the then Earl Strafford, who was minister to that country; the original plant thus went to Twickenham nearly two centuries ago (silver Knightian medal).

Messrs. J. Veitch & Sons, Ltd., sent from their Langley nursery a handsome collection of fruit, including two splendid plants of the Wineberry, *Rubus phoenicolasius* (fig. 41) carrying an immense crop of fruits. Twelve trained Gooseberries in pots were staged. They were mostly five-stemmed plants, each roped with fruit. The varieties included Golden Gem, Crown Bob, Green Camel, Ironmonger, Trumpeter, Warrington, White Champagne, Keen's Seedling, Hedgehog, Napoleon le Grand, Crystal and Clayton. The Plums from the same source were Burbank, St. Etienne, Early Prolific, Boddaert's Gage, Stint, and McLaughlin; the Pears Citron des Carmes, Beacon, Beurré Giffard, Doyenné d'Été, Jargonelle, La Petite Marguerite, and Fondante de Behonel; Currant La Constante; with several Apples of which the most conspicuous were Red Astrachan, Ringer, Mr. Gladstone, Golden Spire, Dutch Codlin, Grenadier, Stirling Castle, Lady Sudeley, Duchess of Oldenburg, Domino, Potts' Seedling, Beauty of Bath, Lord Suffield, Irish Peach, Devonshire Quarrenden, Peter the Great, Benoni, Keswick Codlin and White Transparent (silver Knightian medal).

Mr. G. Charlton, Morpeth, sent fruits of Gooseberry Victoria, a handsome reddish green fruit of large size. Messrs. R. Veitch & Son, Exeter, showed tubers of Potato Beauty of Hebron, and Messrs. W. Sharpe, Ltd., Sleaford, showed Potato Sharpe's Victor, and Messrs. Dicksons, Ltd., Chester, Potato Pioneer Earliest Kidney. Mr. Dixon, gardener to the Earl of Ilchester, Holland House, Kensington, contributed Peaches Violette Hâtive and Nectarine Lord Napier. Mr. A. Russell,

gardener to W. Roupell, Esq., Roupell Park, showed Apples Duchess of Oldenburg, Beauty of Bath, Irish Peach, Lady Sudeley, and Red Astrachan, from trees grown within the five mile radius of Charing Cross.

Mr. G. Woodward, gardener to Roger Leigh, Esq., Barham Court, Maidstone, sent handsome specimens of Apple Northern Dumpling, Williams' Favourite, and Bieligheimer Red, with a dish of Alexander Peaches from standard trees grown in the open air. Mr. C. Ross, gardener to Captain Carstairs, Newbury, showed Melon Baden Powell, a cross from Hero of Lockinge and Batquet. Mr. J. Walker, Cobham, sent a large fruit Tomato of fair form, and Mr. S. Jones, Great Malvern, Tomato The National. Mr. J. Wood, Penrith, sent Bean Wood's Centenary, and Messrs. J. Cheal & Sons, Crawley, Runner Bean Longpod of Leyden. Mr. G. Norman, gardener to the Marquis of Salisbury, Hatfield, sent excellent Royal George Peaches and Hatfield Hybrid Melon.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. O. Thomas, C. T. Druery, G. Nicholson, H. B. May, R. Dean, J. Walker, J. F. McLeod, J. Fraser, W. Bain, J. D. Pawle, C. E. Pearson, H. S. Leonard, C. E. Shea, G. Gordon, J. W. Barr, and E. T. Cook.

Gladioli were represented by a large collection from Messrs. Kelway & Son, Langport, who occupied a table running the length of the hall. The spikes were beautifully developed, and the variety excellent. Some of the best were E. J. Lowe, Richard Milner, Brice, Countess Amy, Plunket, Sappho, Nilus, Paladore, Hazelbeech, Barnum, Carlton, Egeria, and Metastano. A most interesting display (silver-gilt Banksian medal). Mr. S. Mortimer, Rowledge, Farnham, opened the Dahlia season in a most satisfactory manner by staging a good collection of blooms, which included the Show, Fancy, and Cactus sections. Considering the early period the blooms were excellent. In the old sections Mrs. Langtry, Victor, John Hickling, Arthur Rawlings, Archie Mortimer, Sunset, Professor Fawcett, and Dandy were good, while in the more popular section, the Cactus, Mayor Tuppenny, Mrs. Sanders, Uncle Tom, Lucius, Exquisite, Starfish, Mrs. J. J. Crowe, Chas. Woodbridge, Exquisite, and Mrs. Carter Page were good (silver-gilt Banksian medal).

Mr. G. W. Piper, Uckfield, staged some beautiful blooms of the now well-known Tea Rose Sunrise in good condition. From Messrs. Dobbie & Co., Rothesay, came a collection of Pentstemon of the newer type, which included André Lebon, Auguste Cain, Eten-dard, and Alphonse Daudet, also a pretty strain of Antirrhinums, while the strains of Marigolds elicited

universal admiration, for it would be difficult to produce better strains of either African or French varieties.

A grand display of Asters in all sections were arranged by Messrs. H. Cannell & Sons, Swanley. They were arranged in large sprays, and the intervening spaces filled in with Gypsophila. The Mignon were an excellent strain, and the colours quite distinct, while the Victoria section contained a great variety of colour, including a sulphur coloured variety. The Crown section with their parti-coloured flowers, was distinct and attractive. The Pæony varieties were represented by all the well known colours in commerce. Needless to say the Comet varieties were well to the fore from a decorative point of view, while a variety of the same section called Hohenzollern, a pure white, was notable, chiefly for its large size. The Pompon Asters were also staged in a variety of colours (silver Flora medal).

A good collection of Lilies was staged by Messrs. R. Wallace & Co., Colchester, together with hardy flowers. In the former were to be found *L. tigrinum superbum*, *L. Batemannia*, *L. Thuubergianum* Wilsoni,



FIG. 41.—THE JAPANESE WINEBERRY (*RUBUS PHOENICOLASIVS*).

L. auratum and *L. superbum*; also good bunches of *Statice latifolia*, *Delphinium Zalil* (the pale yellow variety), *Calla albo-maculata*, *Crinum Powellii*, and *Montbretia crocosmæflora* (silver Flora medal). A charming table of *Campanula isophylla* Mayi was staged by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton. The plants were arranged most artistically with Ferns and Grasses on a table covered with white paper (silver Banksian medal).

A beautiful display of garden Roses came from Messrs. F. Cant and Co., Colchester, which were most refreshing at this period. The flowers were beautifully fresh, and included *Bardou Job*, *Papa Gontier*, *Cramoisie Superieure*, *Gustave Regis*, *Perle d'Or*, *Killarney*, *Grussan Teplitz* (silver Banksian medal). Messrs. Barr & Sons, Covent Garden, presented a good display of hardy flowers, which included a good collection of *Phloxes* such as *Toreador*, *Le Siècle*, *General Breart*, *Ouragon*, and *Eclairer*.

Mr. Downes, gardener to J. F. Bennett-Poë, Esq., Homewood, Chess-hunt, sent a group of *Browallia grandiflora*. The plants were well grown and beautifully flowered, while the groundwork of *Maidenhair* enhanced the beauty of the exhibit. Messrs. P. J. Looyman & Zohn, Oudenbosch, Holland, sent plants and foliage of *Aralia elata* fol. *argentea*, a pretty variegated form. A beautiful table of hybrid *Gladioli* was staged by Mr. W. Bain, gardener to Sir T. Lawrence, Dorking, the varieties *General*, *Duchesse*, *Ferdinand Kegeljan*, *Demi-deuil*, *Le Chat Noir*, *Antoine Thierry*, and *Belle Alliance*; these varieties are quite distinct, and most remarkable for their colour (silver Banksian medal). Messrs. Jas. Veitch & Sons, Ltd., sent three grand plants of *Nepenthes*, which were remarkably well grown. *N. Dicksoniana*, *N. Sir W. T. Thistelton Dyer* (a hybrid with enormous pouches), and *N. Mixta*, the groundwork of *Maidenhair Fern* added to the display. Some good double *Begonias* were staged by Mr. F. Davis, Woollastill, Pershore; the colours were bright and the plants well grown (bronze Flora medal).

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. G. Fowler, de B. Crawshaw, A. H. Smee, H. Little, H. J. Chapman, H. A. Tracey, W. H. Young, J. Jaques, E. Hill, and J. Douglas.

The total number of Orchids was eight plants from seven different exhibitors, so that it will be seen there was not a single collection. The Rev. F. Paynter, Stoke Hill, Guildford, sent a *Cypripedium*, said to be a cross between *Fairrieanum* and *Stonei*, but it was really *C. callosum*; Messrs. H. Low & Co., Bush Hill Park, *Cattleya Eldorado enfieldensis*; Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell, *Cattleya Patrocini*, a hybrid from *C. Leopoldi* and *C. Loddegesi*, and *Cattleya Warnero-Bowringiana*; Mons. Florent Claes, Brussels, *Odontoglossum crispum* (?) de Sadeleeri; Sir William Marriott, Blandford, *Laelio-Cattleya Clonia Down House* variety; E. Bostock, Esq., Stafford, *Cattleya Harrisonæ violacea*; and Messrs. J. Veitch & Sons, Ltd., Chelsea, *Laelio-Cattleya Hermione*.

Certificates and Awards of Merit.

Cattleya Eldorado enfieldensis (H. Low & Co.).—Pure white with the exception of intense purple on the lip of the rich yellow throat (award of merit).

Gladiolus Mrs. Wood (Kelway & Son).—A rich purple variety of fine form and size (award of merit).

Laelio-Cattleya Hermione (J. Veitch & Sons).—This bigener is a cross from *Cattleya Luddemanniana* and *Laelia Perrini*. The flower is of excellent form and of an exceptoinally rich purple rose on the sepals and petals. The lip is rather small, of rich crimson on the front portion and pale cream within (first-class certificate).

Thalictrum Chelidoni (Lady Breadalbane).—A distinct type; the flowers are mauve with yellow stamens (award of merit).

Nepenthes Sir William Thistelton Dyer (J. Veitch & Sons).—This was described in the *Journal of Horticulture* for August 2nd, page 105 (first-class certificate).

Potato Beauty of Hebron (R. Veitch & Son).—An excellent well-known variety (award of merit).

Potato Sharpe's Victor (C. Sharpe & Co.).—This variety is too well known to require any description (award of merit).

Potato Pioneer Earliest Kidney (Dicksons, Ltd.).—An attractive kidney shaped variety that ripens very early (award of merit).

Culture of Melons.

Having in view the splendid reputation Mr. A. Pettigrew, of the Castle Gardens, Cardiff, has attained to as a general cultivator, and more particularly, perhaps, as a grower of Melons and Vines in pots, it was a matter for regret that there should have been such a sparse attendance when the Rev. Mr. Wilks read a most practical paper on the Melon from the pen of Mr. Pettigrew. It is scarcely the period of year to bring forward such valuable essays on practical subjects, as the holiday season almost invariably means that the meetings will not be adequately attended. Mr. Pettigrew in concise language dealt with Melon cultivation as it was practised in years gone by, and subsequently with the methods that prevail in the majority of establishments at the present day. No important point was omitted, and particular emphasis was placed upon what might be regarded as essential items in Melon culture. We hope to make further reference to the paper in an early issue.

A Lady Amateur's Greenhouse.

I ENCLOSE a photograph (fig. 42) of a small range of span-roofed houses in the garden of Dr. Fosbroke, County Medical Officer, Rose Place, Worcester. The first division is devoted to the accommodation of various plants in flower which have been grown in other houses and frames not shown in the photograph. The principal flowering plants at the time of my visit were herbaceous *Calceolarias*, *Mal-maison Carnations*, show *Pelargoniums*, and a beautiful example of *Diplacus glutinosus*, which is seen hanging to the left of the doorway in the middle distance. The *Diplacus* was distinctly the finest plant I have seen of its kind. It had been allowed to grow in its own straggling way, and thus was seen to the best advantage.

The *Calceolarias* were the chief object of interest. These varied in colour from the palest lemon yellow to the darkest crimson. The plants were quite clean, dwarf, and floriferous; the flowers measured from 2 to 2½ inches across, and produced a much better effect than is shown by the photograph. Carnations are always popular, but are not always well grown; Mrs. Fosbroke grows them as well as anybody. I measured one of the flowers, and it was over 4½ inches across.

Mrs. Fosbroke excels in the cultivation of the *Cyclamen*. There is a plant on the left of the picture; but it is the last flower, and not one of the best. The stock of these plants was in another house, commencing to collect a new store of vitality and strength for the campaign of another winter. They were in 8-inch pots, were 18 inches across, and had borne hundreds of fine flowers each.

The second division shown in the photograph contains some very good specimens of *Adiantum cuneatum*, and the third vigorous *Cucumber* plants coming in fruit. This division contained something more uncommon than Cucumbers, a border or edging of *Watercress*. There is a wrinkle for gardeners who grow Cucumbers for profit during the winter and early spring, and for those who are in a "corner" for salads for the dining-room. Cuttings were planted along the front of the *Cucumber* border, and owing to the heat and moisture grew quickly into use.

A three-quarter span house is devoted to Tomatoes, which are in perfect health and vigour. Then there is a nice *Peach* house containing a good crop of fruit, and in an adjoining frame is a collection of sturdy tuberous *Begonias*. Last, but not least, is the vinery. Here it was I first saw Mrs. Fosbroke. She was busily engaged in tying down the laterals of the Vines, in which she exhibited the deftness of the expert Grape-grower. The Vines show the result of masterly management in being clean, healthy, and fruitful, and they are likely to be so many years if they remain under the same management.

Mrs. Fosbroke manages the plants herself, potting, watering, and tying with her own hands, and not through a deputy. The whole of the plants—Vines, Peaches, Figs, Tomatoes, Cucumbers, and plants generally—are remarkable for their health and cleanliness. I have sometimes wondered whether the Doctor has found the "Elixir of Life" and imparted the secret to Mrs. Fosbroke for the special benefit of her plants.—J. UDALE.

Petunias.

THOSE who have appliances, skill, and time prefer to grow plants that become more valuable as they increase in bulk, and for greenhouse work indulge in specimen plant growing more or less, and for such valuable hard and softwooded kinds exist in plenty. Those who lack the appliances, or the skill, or the time to devote to certain plants are equally well provided for, especially in the way of easily grown *Pelargoniums*, *Begonias*, *Petunias*, and other showy decorative kinds. *Petunias*, like *Zonals*, are not subject to any insect pest, and that is a great point in their favour. Another is that they are continuous bloomers, unless they be stopped by sheer starvation. Easily propagated and grown, showy and highly useful either as small decorative plants, as large specimens, as screens, or for bedding, they have many points in their favour.

For early summer use, to come in after the *Azaleas*, *Hyacinths*, and *Tulips* have gone, autumn is the best time to root them. For soil, ordinary potting soil, such as we use for *Roses*, *Fuchsias*, and *Pelar-*

goniums will do, only it should be open, so that the delicate roots may move freely. A good admixture of flaky leaf soil secures this. For many decorative purposes the brightly coloured doubles are best. In order to have such well furnished it is necessary to begin pinching and staking from the very first. When these are wanted large for conservatory decoration it is necessary to go on pinching continually and removing the blooms till these are wanted. The shoots should never be allowed to grow into each other, as the leaves are sticky and the stems very brittle. For doubles the bush form is best, and there is no excuse for having the plants not covered with bloom from the pot upwards. It is only a question of feeding and pinching.

The singles are far best on flat trellises, and make capital floral screens—better than anything else that could be named, perhaps, for covering back walls or shutting out unpleasant views. For this

tures that are supposed to be rich. For decorative plants 4 or 5-inch pots are sufficient, and to maintain the supply repeated batches can be brought forward. When young and vigorous rich soil causes a too rapid growth, and the flowers, especially those blotched with white, are muddy in colour. Moderately grown the purity of the white is untarnished, and its proportion is greater than when too great vigour is maintained. Moreover, under such conditions the plants do not become so rapidly ungainly in appearance. After flowering for some time, however, signs of exhaustion show; the growths fail to lengthen, the leaves turn sickly yellow, and flowering fails. This should be anticipated, and prevented by judicious applications of liquid manure.

Large plants on trellises, of course, require larger pots, but "the more haste the less speed" if it is tried to get up large plants quickly by giving large shifts into rich soil. Petunia roots do not take well to



FIG. 42.—A LADY AMATEUR'S GREENHOUSE.

purpose trellises made of a stout galvanised wire to form the circumference, and galvanised wire netting, such as is used for poultry runs, if neatly manipulated, is as good as anything. These stout stakes with protruding ends to insert in the pots give the necessary rigidity. According to the positions they are to fill they may be made with a surface of from 10 to 30 square feet. It is very easy to cover such a surface with leaves. A few growths trained round and round the trellis will do that; but the sole beauty of the Petunia lies in the mass of colour they present when well grown. To succeed in having an unbroken sheet of bloom all over the trellis from the pot upwards pinching must be commenced when the plants are not over 3 inches high, and every shoot must have the point taken out when it has grown from 2 to 3 inches. If this treatment is persevered in and a proper distribution made of the resulting shoots there will be at least one flowering shoot for every square inch on the trellis.

Petunias must not be placed in too large pots, or in greasy mix-

such, and greater progress will be gained by giving small shifts, using sweet open material, enriched either beforehand—that is, by loam enriched long before use—or at the time with only very fine bonemeal or chemical manure. An 8-inch pot will sustain a densely covered trellis of 12 square feet; a 10-inch, 20 square feet; and a 12, over 30 feet. Strong-growing varieties should be used for the larger plants, smaller growers for the lesser size.

The utilisation of Petunias, especially the single varieties (fig. 44, page 159), for the purposes of summer bedding finds favour with many growers, and when the season is favourable they are productive of a most beautiful display. Their culture for this purpose is thoroughly understood, that I need not dilate upon it save to emphasise the necessity for keeping the plants as dwarf and stocky as possible. I saw a bed in Hyde Park recently that was very attractive, and comprised not only several colours but also distinctive forms in the flowers.—GROWER.



The Value of Nuts.—It is said that the Nut trees of the world alone could, if necessity arose, provide food all the year round for a total population three times greater than the present. It has been pointed out to the Washington Department of Agriculture that Brazil Nuts around Para grow in such profusion that thousands of tons of them are wasted every year; with Cocoanuts it is the same in many centres.

A Bishop on Digging.—After distributing the prizes to the successful scholars of the Hampton Grammar School on Wednesday, the Bishop of London said he always thought it would be a good thing that every boy should have some definite manual work. He was not sure that digging would not be a good thing—digging hard for one hour. Our first parents had to perform that very primitive pursuit. It was one that had to be done in the primary tussle with Nature, in which, after all, we were engaged, and which civilisation had produced. Everyone ought to know what hard manual labour meant, and he should be glad to see its application take a place side by side with the more highly developed curriculum of which we were so proud.

Potato Spraying.—In the experiments with Potato spraying mixtures carried out last year by Mr. Moss, on behalf of the Royal Dublin Society, that gentleman found that the Burgundy mixture (made with sulphate of copper and soda crystals) possessed distinctly greater adhesive properties than the Bordeaux mixture (made with sulphate of copper and lime), and that it might therefore be found a better preparation for use in wet weather than the ordinary Bordeaux mixture. Mr. Moss's conclusions in this connection, says a contemporary, are very strikingly confirmed by the experiments at Glasnevin, as certain drills of the field there, which were dressed with the Burgundy mixture (the weather became very wet and unsettled after the operation was performed) are distinctly greener and show much less trace of the disease than an adjoining set of drills of the same variety which were dressed with the Bordeaux mixture.

When is Growth Most Active.—Most people imagine that plants perform all their growth during the daytime, and that, like the great majority of human beings, they largely suspend active working operations after nightfall. We have it on the authority of a well known naturalist, however, that growth in the case of plants is much more active at night than in the daytime. This gentleman conducted an exhaustive series of experiments on the subject, and found the relative percentages of growth at different periods of the day to be as under:—From 6 A.M. to 9 A.M., 8 2/3 per cent., of growth; from 9 A.M. to mid-day, 1 1/3 per cent.; mid-day to 3 P.M., no growth; 3 P.M. to 6 P.M., no growth; 6 P.M. to 9 P.M., 1 1/3 per cent.; 9 P.M. to midnight, 3 2/3 per cent.; midnight to 6 A.M., 85 per cent. From these figures it is concluded that more than 90 per cent. of growth is made during the night. Numerous plants were used for these experiments, and the amount of growth at the different periods varied according to the different kinds.

German Irises Dying Off.—My attention was recently drawn to a large bed of German Irises in a somewhat low position in the extensive pleasure grounds of a noted residence near Birmingham, and in which here and there portions of the plants had assumed a very sickly appearance. The bed was planted some few years ago, and has become massed with the plants. The gardener in charge had not observed a similar failure in previous years. I suggested that possibly the rhizomatous roots had become too deeply buried, but inspection proved that where the rhizomes were fully exposed the plants were also affected, otherwise the bulk of the plants were in a flourishing condition. Some of the affected plants were growing on the edges of the bed, thus overcrowding could scarcely be a contributory cause of the disease. Coincidentally, on the same day, in another large garden in the same neighbourhood, the gardener pointed out to me a similar case; but in this instance it occurred to a single plant of one of the choicest varieties of the German Iris which had been planted about two years ago in close proximity to an ornamental pond, and while only a portion of the plant was diseased, the remainder was in vigorous health and producing strong flower stems.—W. G.

The Sustaining Power of Bananas.—One of the most courageous marches ever taken, was that of Colonel Willcocks to Kumasi. We hear that during the march from Kumasi the whole party lived on Bananas. On one occasion they even waded shoulder high through a river for two hours. Does anyone want a higher test of endurance on a vegetable diet than this?

Kensington Gardens.—"L. K." writes in a contemporary:—"I desire to call attention to the deplorable state of the quaint summer-house in Kensington Gardens, near the magazine. The roof tiles are slipping off, and I am sure the old building will not stand the snows and winds of another winter. It seems a pity that such a relic of old Kensington Gardens should be suffered to perish when it could be preserved at a very trifling cost."

Hints to Hay Growers.—The hay-growing experiments by Sir John Lawes at Rothamsted Park have had interesting results. On land which has had no manure for forty-five years the weight of hay secured is 12 1/4 cwt. per acre; the plot receiving a mineral manure has given 27 cwt. per acre; while the plot receiving a mixture of minerals and ammonium salts has yielded 38 cwt.; and the plot receiving minerals and nitrate of soda has given 49 1/2 cwt. The heaviest manured plot produced 60 1/2 cwt. per acre, while the same plot on a portion of the land which has received a dressing of chalk in addition to other manures gave 65 1/4 cwt. per acre.

Plagianthus Lyallii.—Though an ally of the Hibiscus, and belonging to the same natural order (Malvaceæ), this plant has not much in common with them, the growth being more graceful and the flowers smaller, and produced much earlier. A native of New Zealand, it is only hardy in the more favoured climate of the south and west of England, though in the London district it has grown and flowered freely in a sheltered situation for the last three years. Farther north it would require the protection of a wall, or to be grown indoors. It forms a large, distinct-looking shrub about 8 or 10 feet high, with long, arching branches which in July and August are covered with flowers. The alternate leaves are cordate in shape, 3 to 4 inches long, on rather slender petioles of about the same length, deeply crenate, of a dull green above, paler and more glossy beneath. The flowers are pure white, in shape and size somewhat resembling those of a Philadelphus, and are borne chiefly on short lateral spurs on the main branches.—C.

Nature in Miniature.—"Anything more ridiculously quaint than a typical Chinese garden can hardly be imagined," said the wife of a missionary who with her husband has penetrated far into the "Middle Kingdom." "It is landscape gardening run mad. Here in one corner you have a miniature forest of Oaks, Elms, Chestnuts, and Cedars, all at least thirty years old, but all under 3 feet high, being, of course, artificially stunted by the Chinese method. Then there is a tiny river, 5 or 6 inches across, trickling into a miniature lake, in which swim miniature gold fish, for, of course, full-sized gold fish would be out of proportion! Over the lake is a wee bridge, and close by stands a Chinese temple, strongly reminding one of the picture on a willow-pattern plate. Then there are mimic rocks and hills and roadways. The whole thing is a model of Chinese industry and minuteness. Yet somehow the effect is more amusing than impressive; for the design is too laboured and mechanical. With all his capacity for delicate work, the Chinaman is not an artist—at any rate, in our estimation—and his garden is a curiosity rather than a thing of beauty."

Nitrogen and Electricity.—Tesla says it will yet be feasible to procure nitrogen from the air in a form suitable for fertilising purposes by means of electricity. By transmitting electric power great distances without wires, Tesla also thinks that power will be made so cheap that it will pay to pump water for irrigating lands that cannot be otherwise utilised. Yet such a source of cheap nitrogen would be no more remarkable and not as practicable as the method by which every intelligent farmer now extracts nitrogen from the air instead of paying for it. Leguminous crops have the power to extract nitrogen from the soil's atmosphere by means of nitrifying organism or bacteria. These crops will thrive on poor land if dressed with a little potash and phosphoric acid, and then if ploughed under (in whole or in part), the nitrogen thus obtained is added to the soil's supply of plant food. The wonderful function of bacteria is just beginning to be realised in agriculture as in other industries. In this and other ways Nature will help intelligence as applied to farming, more readily and efficiently than to idly wait some transcendent discovery for the artificial extraction of atmospheric nitrogen.—("American Agriculturist").

Death of Mr. John Laing.

ALTHOUGH it had been known for some considerable time that Mr. John Laing was in indifferent health and that his constitution and strength were being undermined, the end on Wednesday, August 8th, came with painful suddenness. Of late he had been out and about, though he did not give much attention to business, until Tuesday, when there came a paralytic stroke from which he never rallied. His had been a life of activity in the kindred sciences of botany and horticulture, and in the fact that he regarded all moments as valuable of which full advantage should be taken, lies the secret of his splendid success and allowed him to spend the evening of his life on the nursery that he had brought together with patience, industry, and skill. Mr. Laing sought for the end that he had definitely before him—namely, the establishment of a business that should make his name famous throughout the entire world. And he was wholly successful.

It will be observed in perusing the brief remarks upon Mr. Laing's career, that he was keeping close up to the wind at all times—he never deviated from the track sufficiently to affect in the slightest degree his life's work. In all his studies and botanical researches he worked logically and systematically, and with the entire realisation of the knowledge that his work would bring its reward in later life. When the summer of his days had gone he would display with pride the specimens gathered upwards of half a century ago, and show the medal that an Edinburgh scientific body had seen fit to confer upon an industrious learner. His collection of dried Mosses and other cryptogamic plants, collected in the neighbourhood of Edinburgh and other places where the following of his avocation called him, was magnificent in its completeness, and each page had its history or its anecdote. Needless to say Mr. Laing's knowledge of Mosses in other places besides portions of Scotland was almost illimitable, and the interest of his younger days was intensified rather than otherwise as he grew older, though he was not as time went on able to continue the active work of collecting.

Mr. Laing was one of the most genial horticulturists of the generation, and at the same time practical, shrewd, and a thorough man of business. He was born in October, 1823, at Carriston, near Brechin, N.B. His first instruction in gardening was gained in the gardens of Old Montrose, under the charge of Mr. Reid, and it was there he first directed his attention to the study of Mosses and other cryptogamic plants. The next move was to the gardens of Kinnaird Castle, the seat of the Earl of Southesk, and during the two years spent in that establishment he applied himself closely to his gardening duties, but still found time to pursue his botanical studies. Removing to the Royal Botanic Gardens, Edinburgh, under Mr. McNab, he conducted himself with so much satisfaction to the authorities that he was honoured with an associateship.

In 1847 Mr. Laing was appointed manager of the Onchan Nursery in the Isle of Man; thence he went to Chester and took charge of the indoor department at Messrs. F. & A. Dicksons' nursery. Remaining there for a short time he was engaged by the Earl of Rosslyn as gardener at Dysart House, Fife, where he gained much fame as a cultivator. In 1860 Mr. Laing joined the firm of Downie & Laird, and proceeded to London to establish the Stanstead Park Nursery; the firm was dissolved in 1875 as regards the London branch. Mr. Laing then took the business himself, subsequently admitted a partner, and

until some twelve or fifteen years ago the firm was known as Laing and Co. Shortly after the period indicated Mr. Laing became sole proprietor, and took his two sons, Mr. J. A. Laing and Mr. J. H. Laing into active partnership, under the style of J. Laing & Sons, by which it is known at the present day.

Throughout the whole of his varied career Mr. Laing had identified himself with florists' flowers, and had been a cultivator of Chrysanthemums for several decades. This talented florist did not, however, confine himself strictly to cultivation, but also turned his attention

towards the evolution of the several kinds upon which he concentrated his abilities. In no flower were his persistent efforts crowned with such striking success as the double and single flowered tuberous-rooted Begonias. These plants were raised from the produce of a comparatively insignificant flower to their present superb beauty, and one of the pioneers in the work was the late John Laing. Now in these plants we find a combination of excellent traits, for they are dwarf, floriferous, easy of culture, exceptionally diverse in their colour range, varied in form and build of the flowers, while the foliage of some of the varieties exhibits a marbling for whose beauty alone the plants might well be grown. We need not enumerate individually the plants that came within the ken of this able florist, for they comprise practically all greenhouse and stove kinds, with many of hardy nature that appertain to the open garden. When the Victoria Medal of Honour was instituted Mr. Laing was deservedly one of the first recipients. Though he had reached to the ripe age of 77 years, the deceased

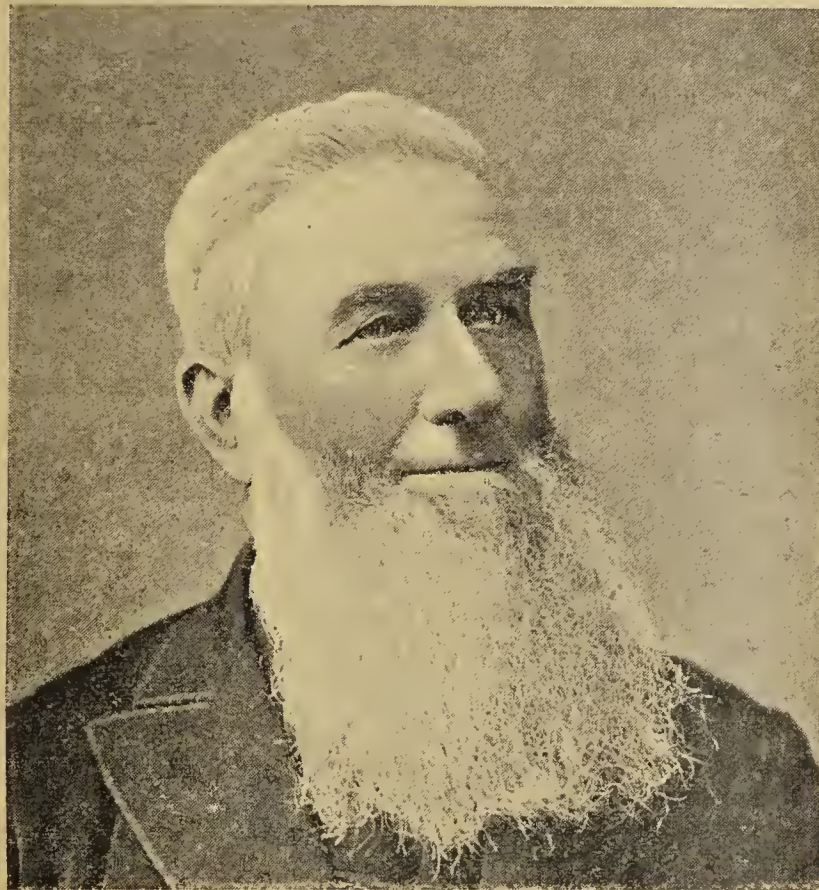


FIG. 43.—MR. JOHN LAING.

will be regretted not in England and Scotland alone, but wherever horticulture is loved throughout the world. For the portrait (fig. 43) we are indebted to Mr. R. Lewis Castle, Ridgmont, Beds.

Fruit and Prices.—It needs no special knowledge of the general condition of the fruit market to understand that prices are ruling low, because all descriptions of home grown fruit have been, and still are, offered retail at very low rates. Certainly we have this year a fruit season for the million, although it is far from being likely to be of great profit to the grower. Of course there are some growers who either have the full run of the market, or, better still, who have fruit of great excellence, who will in the end have nothing to complain of. But the average fruit grower is rather troubled than blessed by his immense crop of tree fruit, and already realises that prices will hardly be remunerative. He is also on the horns of a dilemma in regard to labour, as that is most difficult to get, and quite as difficult to retain. I heard the other day of 1s. per bushel being offered for Damsons of which the crop of Farleighs is an enormous one. It must cost 6d. at least to gather a bushel of these small fruits, so that the residue left for the grower will in any case be small. Really we are now having one of those periodical fruit gluts that come once in four or five years, whilst so many other years are lean ones, hence the average produce of our fruit areas is after all far from being great. No doubt because easy to grow we do grow too many fruits that mature at the same time. Probably the man who has plenty of fine Prince Alberts, Wellingtons, Bismarcks, and Lord Derbys, amongst Apples, will, if he holds them over, find a far better market than will he who has all Suffelds, Grosvenors, Warners and other early varieties. We may say the same of Plums and Pears. Still also will he have the best market who has the finest fruit. Too much of the market fruit is of the average character, that which is above the average will prove most profitable, and it is of the very best that we want more.—A. D.

Horticultural Shows.

Moseley and King's Heath, August 7th.

THIS society celebrated its majority on the above date by holding the annual show in a large field adjoining the charming grounds of the Priory, the residence of J. H. Cartland, Esq. Fortunately the weather proved propitious.

The competition in "groups, arrangement for effect" was not so keen as on some former occasions. Mr. Alfred Cryer, gardener to J. A. Kenrick, Esq., Berrow Court, Edgbaston, was first, and Mr. E. J. Mustin, gardener to A. F. Bird, Esq., The Firs, Moseley, second. Mr. Cryer was the only exhibitor in the class for six stove and greenhouse plants. Exotic Ferns were most creditably shown by Mr. Mustin and Mr. G. Robinson, gardener to J. H. Cartland, Esq. Single Zonal Geraniums were also well staged by the two last exhibitors in the order named. Coleuses were finely represented by Messrs. Cryer, G. Robinson, and Mustin. For three Palms Mr. Mustin had an easy win with elegant specimens in variety. Mr. G. Robinson was the only exhibitor of Dracenas with large and well coloured specimens, and also Caladiums. Messrs. A. Cryer and Mustin were successful with six table plants. Gloxinias were a feature, and the first prize for six plants taken by Mr. E. J. Mustin were notable for close arrangement of their erect, shapely blooms, and rich or delicate colouration. Carnations and Picotees were remarkably well staged by Mr. John Dewey and Mr. W. H. Paton, King's Heath, with blooms of the leading varieties extant.

Floral decorations for dinner tables were much in evidence, and most tastefully arranged, more especially the equal first prize examples by Miss Boaler and Mrs. Mustin, while the baskets of flowers for dinner table decoration by Mrs. Mustin and Mrs. H. A. Burberry displayed considerable artistic taste. Bouquets also merit a word of praise. For a shower bridal bouquet Mr. S. Johnson, Balsall Heath, was placed first; Mr. E. Burden, Moseley, second; and Mr. Mustin in the third position. For circular ballroom bouquets Mr. S. Johnson again scored, Mr. Mustin being a close second.

Sweet Peas were very well represented, and the contest for the prizes offered by Mr. R. Sydenham, Birmingham, was keen, Mr. W. H. Paton, King's Heath; Mr. James Austin, Sparkbrook; and Mr. H. Hoynes, King's Heath, being the victors according to order named.

Fruit, on the whole, was never better shown here, the Grapes especially being remarkably good. For three bunches of black Grapes Mr. Ganderton was placed first with medium sized bunches, large hammered berries, with perfect bloom upon them. Mr. G. Robinson was second; and Mr. J. Drury, gardener to R. P. Franklin, Esq., third. For three bunches white Grapes Mr. G. Robinson was first with Muscat of Alexandria with very well ripened large berries; the second prize falling to Mr. A. Ganderton with Foster's Seedling, large both in bunch and berry. For two bunches black Grapes Mr. Ganderton again scored with meritorious examples, and Mr. G. Robinson was a close second. Mr. E. J. Mustin was the only exhibitor of a single dish of Peaches, and gained the first prize for fine and well coloured fruit. For a collection of six dishes of fruit Mr. A. Ganderton was to the fore with very good Black Hamburg, Buckland Sweetwater, Peaches, a Melon, Morello Cherries, Gooseberries, and Black Currants. Hardy fruits, flowers, and vegetables were well staged by amateurs and cottagers, as well as gentlemen's gardeners.

Leicester, August 7th and 8th.

THE great exhibition held in the beautiful Abbey Park on the above dates was undoubtedly the finest ever seen in this flourishing Midland town. In almost every section the exhibits showed a decided advance upon those of last year. The management committee have just cause to congratulate themselves upon the success of their efforts, and also upon the fact that the show opened on Tuesday instead of Monday, for the rain fell in a perfect deluge throughout the popular bank holiday; and although Tuesday was not an ideal day for a show, fortunately only a few slight showers occurred to mar the enjoyment of the 24,000 who passed the turnstile. The terrific gale of Monday night unfortunately did considerable damage, as it levelled several of the tents with the ground, and damaged many valuable plants in the tent where several of the groups had been arranged, causing the exhibitors to have the whole of their work to perform a second time, and with less satisfactory results because of the damaged plants.

The grounds of the Abbey Park were in exceptionally fine condition, for although the heavy rains had taken the brightness from the flower beds, everything looked so fresh and clean. The subtropical beds near the entrance were pictures of grace and beauty, and on all sides great use had been made of huge vases tastefully filled with plants. Mr. Jno. Burn and his assistants have certainly just cause to be proud of the condition of the park. In attending to the numerous details of the show, Mr. Burn is also indefatigable, and his geniality wins the esteem of all

exhibitors who often make a point of showing at Leicester, even if it entails great personal inconvenience.

Groups and Specimen Plants.

Groups were undoubtedly the great feature of the show, and judging by the way the crowds lingered to admire the beautiful combination of form and colour they provided, it is evident that an appeal to the artistic taste of the masses is not often made in vain. The prizes offered for the most tastefully arranged group to occupy 160 superficial feet were £20, £15, £10, and £5. The veteran from Cheltenham, Mr. J. Cypher, secured the coveted award with an arrangement which for lightness, artistic taste, and exquisite finish could not easily be surpassed. A light, wide arch formed the centre, this being topped by a beautiful Phoenix; a basket of Nephrolepis was suspended from the centre, above it hung a well-flowered plant of *Epidendrum vittatum* majus growing on a block, and the arch was lightly dressed with Orchids, Ferns, foliage plants, and creepers. The corners were formed of bold, heavily topped and graceful Bamboos, and filled in with Orchids, foliage plants, and Ferns. Mr. H. Rogers, Leicester, was a good second with a well-finished group. The third award went to Messrs. Artindale & Son, Sheffield, who put up a showy group similar in method and arrangement to second prize one, but not so varied or so well finished. Mr. W. Vause, Leamington, was fourth.

An Orchid temple formed the centre; the whole design was very lightly worked out, and it is unfortunate that so fine an idea should have been marred by damaged plants. May the gales of Leicester treat you more kindly in the future, Mr. Vause! An extra prize was awarded to Mr. H. Blakeway, gardener to — Muntz, Esq., Rugby, for a light and pretty arrangement. Plants were not largely shown. The last named exhibitor was first for six stove and greenhouse plants, and Mr. H. Rogers occupied a like position for the same number of exotic Ferns. In each case the specimens staged were in fine condition, though not of large size.

Fruit and Vegetables.

The exhibits in the fruit section were good throughout, the black Grapes being uniformly well coloured. Mr. J. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, won the £6 offered as a first prize for a collection of eight dishes. He staged Black Hamburg Grapes, shapely in bunch and beautifully coloured; Canon Hall Muscat, Madresfield Court, fine in bunch, grand in berry, but wants a shade more colour at the base of the berries; Barrington and Royal George Peaches of good size and finely coloured; Lord Napier and Elruge Nectarines, the latter very fine in colour, and a good Melon. Mr. J. Doe, Rufford Abbey, was second; his best dishes were fine Muscat of Alexandria and Madresfield Court Grapes, a good Queen Pine, well coloured Dymond Peaches, and Lord Napier Nectarines. The third award went to Mr. A. McCulloch, Newstead Abbey, who had grand Madresfield Court Grapes and Barrington Peaches. Mr. Read, gardener to the Earl of Carnarvon, Bretby Park, was fourth.

For eight dishes, Pine excluded, Mr. Goodacre again scored, staging fine examples of Black Hamburg and Canon Hall Muscat Grapes, a beautiful Hero of Lockinge Melon, Royal George Peaches, and Elruge Nectarines, highly coloured Negro Largo Figs, Kirk's Plum, and Lady Sudeley Apples. Mr. McCulloch was second; his Madresfield Court Grapes were grand, and Peaches, Melon, and Figs good. The third prize fell to Mr. Doe, and the fourth to Mr. Read. For a collection of four varieties of Grapes there was strong competition. Mr. McCulloch proved the victor, staging large bunches of Madresfield Court, well coloured, excepting a few berries at the foot of one bunch; Muscat of Alexandria, large and shapely; huge clusters of Black Hamburg and Gros Maroc, moderate in size of bunch, but well coloured. Mr. Goodacre was second. He staged Muscat Hamburg in fine condition, large bunches of Black Hamburg, Canon Hall Muscat, and Muscat of Alexandria. Mr. Read was third. For two bunches of Muscat of Alexandria Grapes, Mr. Duncan, Bosworth Hall Gardens, proved the winner with large well-coloured examples. Mr. McCulloch was first for a like number of Black Hamburgs. For any other black Mr. Goodacre proved victorious with Madresfield Court; and for any other white, Mr. A. J. Elphinstone, Nottingham, scored with beautifully coloured examples of Buckland Sweetwater. Mr. McCulloch was first for Peaches with Stirling Castle, Mr. Read for Nectarines with a lovely dish of Elruge; Mr. Elphinstone won for both green and scarlet-fleshed Melon, and Mr. Goodacre was first for a dish of Figs and for Cherries.

Vegetables were largely and well shown; the various collections made quite a display in themselves. For twelve distinct varieties Mr. J. Hudson, Leicester, was an easy first with a wonderfully clean collection of good quality throughout. He staged Onions in fine condition, grand Perfection Tomatoes, Leeks, Celery, Beet, Potatoes, Peas, Beans, Carrots, Cucumbers, Marrows, and Celery. Unfortunately the varietal names were not attached. Mr. Read, who was second, staged fine Onions, Peas, and Carrots. The third award went to Mr. R. Shaw, Garendon Park Gardens. Mr. Hudson also won for six dishes of Potatoes, three round and three kidney, being large clean tubers. Messrs. Sutton & Sons offered special prizes for six distinct kinds. The first prize went to Mr. R. Shaw for a collection of all-round excellence, consisting of Onions, Tomatoes, Cauliflowers, Potatoes, Peas, and Beans. Mr. E. Jackson was second, and Mr. R. Hoe third. The winner of the first prize offered by Messrs. Harrison & Sons of Leicester was Mr. H. Taylor, Leicester. Mr. J. Green was successful in winning the

premier award offered by Mr. C. Warner of Leicester for a collection. Mr. R. Dingle also offered substantial prizes for a collection of ten varieties. The winner was Mr. J. Green. In the single dish classes the principal prizewinners were Messrs. Hudson, Read, Shaw, and Moule.

substance and good colour, and were distinctly ahead of other exhibitors. Some of the most attractive blooms were Prince Arthur, Ulrich Brunner, Mrs. J. Laing, John Stuart Mill, Killarrey, Lady Mary Fitzwilliam, Marie Baumann, Madame Joseph Bonnaire, Kaiserin.



Fig. 44.—PETUNIAS. (See page 154.)

Cut Flowers.

Roses, as usual, were extensively shown, and the fine quality of many was a matter for surprise after so many days of wind and rain. Messrs. D. & W. Croll, Dundee, were the victors in the class for thirty-six blooms, dissimilar. They staged large flowers of great

A. Victoria, and A. K. Williams. Messrs. A. Dickson & Sons, Newtownards, were second. The third award went to Mr. Hugh Dickson, Belfast. This exhibitor was first for twenty-four blooms. He staged fine examples of Gustave Piganeau, Caroline Testout, Captain Hayward, Mrs. J. Laing, and many others. Messrs. Dickson & Sons, Newtownards,

were second. The third award went to Messrs. D. & W. Croll, and the fourth to Messrs. R. Mack & Sons, Catterick. For twelve Teas or Noisettes Messrs. A. Dickson & Sons scored, their best blooms being Comtesse de Nadaillac and Maréchal Niel, but the Teas on the whole were weaker than in former years. Second, Messrs. Croll; third, Harkness and Sons. For twelve Roses, any one variety, Mr. H. Dickson, Belfast, scored with Mrs. J. Laing in fine condition, and for a like number of Teas Messrs. Dickson & Sons, Newtownards, were first with Madame Hoste.

Messrs. Davis & Son, Yeovil, were first for twenty-four single Begonias, and also for a like number of double varieties. In each case the blooms were of high quality. Carnations were shown in fine condition, and the Birmingham growers had matters pretty much their own way. For twelve flakes or bizarres Messrs. Thompson & Co., Birmingham, were first. Master Fred, Sportsman, J. D. Marshall and A. Curzon were noticeable flowers. The class for twelve yellow Carnations, self or Fancy, was a good one. Messrs. Thompson & Co. won here also. Some of their finest flowers were Voltaire, May Queen, The Gift, Pantaloon, and Perseus. For a single bloom of bizarre the same firm was also successful, as well as for a flaked variety. For one self bloom, any colour, Messrs. Artindale & Son were first with a grand yellow bloom named Cecilia. Mr. R. G. Budd, Balsall Heath, Birmingham, won for twelve Picotees, dissimilar; and for a single bloom Messrs. Artindale & Son were successful. The latter firm was first for six bunches of Carnations or Picotees shown with their own foliage. Mr. J. Gould, Rugby, was first for twelve bunches of stove or greenhouse flowers. Mr. G. Brown, gardener to H. Simpson Gee, Esq., Leicester, was first for twelve bunches of hardy annuals and for a dozen trusses of Zonal Pelargoniums; and Messrs. Harkness & Son won for a collection of hardy herbaceous plants to occupy a space of 15 feet by 5 feet—a very fine collection.

Messrs. Perkins & Sons, Coventry, secured the premier awards for a hand bouquet, a bridal bouquet, a basket of flowers, and three sprays with exhibits in their usual finished style.

Non-competitive Exhibits.

A large gold medal was deservedly awarded to Mr. W. H. Lawson, gardener to Mrs. Ellis, Knighton Hayes, Leicester, for a fine group of plants, which filled one end of a large tent. The arrangement was carried out in a most artistic manner, and reflected the greatest credit upon the exhibitor, both as a grower of plants and an able groupist. Messrs. Cutbush & Son, Highgate, exhibited examples of topiary work, and won a gold medal. A silver medal went to Messrs. Artindale & Son for a collection of Carnations. Mr. Mortimer, Farnham, was awarded a gold medal for a very fine collection of Dahlias, which included many promising seedlings. Messrs. Harrison & Sons, Leicester, received a similar award for an extensive collection of vegetables and cut flowers. Other winners of gold medals were Messrs. Sydenham, Tamworth, for Violas; Davis, Yeovil, for Begonias; Deveril, Banbury, herbaceous cut flowers; Birkenhead, Manchester, for Ferns. Silver medals were awarded to Messrs. R. Pringle, Leicester, for a collection of plants and cut flowers; Jones & Son, Shrewsbury, for Sweet Peas; Bentley, Leicester, for Dahlias; W. L. Pattison, Shrewsbury, for Violas; Holden, Hinckley, for Carnations; Edwards, Nottingham, for Edwardian ware; and Harkness & Sons for Gladioli.

Harborne Gooseberry Show, August 11th.

THE eighty-sixth annual show took place on August 11th, and save for the recent unpropitious weather not only the individual but the aggregate weights of the berries would have exceeded that for several years past, and as it was, last year's record was exceeded. Many very fair berries had burst prior to the show day, including one weighing upwards of 28 dwts. There were seventy dishes of berries exhibited. It may also be interesting to state that the heaviest berry yet shown was by Mr. Barton (deceased) with "Bobby," a red variety, 34 dwts. 20 gr. in 1875, grown in the allotment gardens which were instituted by Lord Calthorpe in 1815, and entitled the Waterloo Gardens in commemoration of the battle of Waterloo. For nearly a quarter of a century past Mr. E. Boraston has officiated as secretary, and Mr. Tom Richards as weigher of the berries. Mr. J. Careless (Bartley Green) was the only maiden exhibitor with British Oak, 20 dwts. 20 grs. Appended is a list of the prizes:—

HEAVIEST BERRY.

dwt. grs.	dwt. grs.
W. James (Surprise) ... 24 10	J. Waldron (Jolly Potter) ... 22 6
E. W. Withers (Leveller) ... 24 6	

TWIN BERRIES.

E. Withers (Leveller) ... 34 —	J. Waldron (Thatcher) ... 28 12
C. Hill (Fascination) ... 32 12	

RED BERRIES.

E. Withers (Bobby) ... 22 11	J. Waldron (Jolly Potter) ... 20 —
W. James (Ploughboy) ... 20 12	T. Richards (Blucher) ... 18 18
G. Cash (Lord Derby) ... 21 —	G. Gibbs (Dr. Woolley) ... 18 6

YELLOW BERRIES.

dwt. grs.	dwt. grs.
W. James (Ringer) ... 24 8	J. Waldron (High Sheriff) ... 18 —
E. Withers (Leveller) ... 24 —	G. Cash (Mount Pleasant) ... 16 17
C. Hill (Thatcher) ... 19 13	J. Hinton (J. Popham) ... 16 —

GREEN BERRIES.

J. Careless (British Oak) ... 20 20	E. Withers (Admiration) ... 19 12
A. Wise (Cheerful) ... 20 5	O. Hill (Stockwell) ... 18 —
J. Higham (Shiner) ... 19 12	J. Waldron (Plunder) ... 17 12

WHITE BERRIES.

E. Withers (Faithful) ... 22 10	J. Waldron (Fascination) ... 19 12
T. Richards (Antagonist) ... 21 12	W. James (Careless) ... 19 6
A. Wise (Transparent) ... 21 —	W. Parsons (Succeed) ... 16 —

HEAVIEST FOUR BERRIES.

E. Withers (Bobby, Leveller, Surprise, Princess Royal) ... 80 12
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PLATES OF TWELVE BERRIES—RED.

E. Withers (Bobby) ... 244 6	W. James (Ploughboy) ... 194 12
J. Waldron (Bobby) ... 206 —	

YELLOW.

E. Withers (Leveller) ... 261 6	J. Waldron (Leveller) ... 228 —
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GREEN BERRIES.

J. Careless (British Oak) ... 203 12	W. James (Surprise) ... 195 —
E. Withers (Surprise) ... 203 —	

WHITE.

A. Wise (Transparent) ... 228 —	T. Richards (Transparent) ... 194 12
E. Withers (Transparent) ... 219 —	

EXTRA PRIZES.

E. Withers (Ringer and Faithful) ... 42 12
J. Waldron (Jolly Potter and Ringer) ... 39 —
W. James (British Oak and Leveller) ... 30 12
A. Wise (Leveller and Fascination) ... 37 12
J. Higham (Leveller and Surprise) ... 37 6
J. Hobday (Dan's Mistake and Leveller) ... 37 4
J. Careless (Leveller and Transparent) ... 37 —
C. Hill (Blucher and Transparent) ... 34 16
T. Richards (Blucher and Leveller) ... 33 12
W. Parsons (Bobby and Leveller) ... 34 —
G. Gibbs (Dr. Woolley and Careless) ... 33 12
G. Cash (Bobby and Careless) ... 32 12

Malton (Yorks), August 8th.

THIS society was fortunate in having a fine day for the show on Wednesday, August 8th. We have seen better shows at Malton. There was a marked falling off in plants, and the other sections were not quite up to their usual standard.

The principal plant class was for six stove or greenhouse plants in bloom, for which prizes of £5, £2 10s., and £1 10s. were given. Mrs. Kitchen (gardener, Mr. Suffield), was an easy first with good specimens; Messrs. Simpson & Sons, Selby, were second with smaller plants. For three ditto Mrs. Kitchen was the only exhibitor, and was awarded a first prize. Messrs. Simpson & Sons obtained first place for one specimen stove or greenhouse plant; Mrs. Wyse, Auburn Hill, second; Mr. T. Watson, Malton, third. Messrs. Simpson & Sons and Mrs. Kitchen also carried off the prizes for ornamental or fine foliage plants, the former being first both in the class for six and three plants respectively. Mrs. Kitchen secured first place for four exotic Ferns with good specimens; Mrs. Wyse second. For two ditto Mrs. Wyse was first and Miss E. Slater, Malton, second. For three British Ferns Mr. J. Elliker, Kirbymoorside, first, Mrs. Kitchen second. In the class for six plants for dinner-table decoration, pots not to exceed 7 inches in diameter, Mrs. Kitchen carried off first honours both for six plants and three, Messrs. Simpson & Sons being second in the former, and Messrs. G. Longster & Sons in the latter class. For two pots of Tomatoes bearing fruit, Mrs. Wyse was first and Mr. Wood, Old Malton, second. Liliums, Begonias, Balsams, and Zonal Pelargoniums were fairly well shown.

Messrs. H. Clark & Sons, Rodley, near Leeds, were the only exhibitors in the classes for Show and Fancy Dahlias. They had a stand of twenty-four Show, twelve ditto, twelve Fancy; the blooms were of a high order of merit. They were also first for Cactus Dahlias. For six bunches Pompon Dahlias Mr. J. D. Hutchinson, Kirbymoorside, secured first place; Mr. R. H. Wiles, Whitby, second. The best six spikes of Gladioli were staged by Messrs. Harkness & Sons, Bedale; Mr. J. D. Hutchinson being second. The Hon. G. N. Dawnay was first for six bunches of double and single Begonias. The wet weather had greatly injured Sweet Peas, but Mr. Hutchinson had a very good collection, and easily secured first place for twelve bunches, and also six; Mr. G. R. Akester was second in both classes. There was only one entry for twelve varieties of annual flowers, which were set up by Mr. Hutchinson. He was also first for six varieties; Mr. J. Whitehead, Appleton, second. The latter gentleman was first for twelve varieties of wild flowers; Mrs. Longbottom, Malton, second. Messrs. Harkness and Sons set up a really good collection of eight varieties of herbaceous flowers—red and white Phlox, very fine; Harpalium rigidum, Montbretia

crocosmæflora, *Chrysanthemum maximum* G. F. Sage, *Gypsophila paniculata*, *Gaillardia*, and *Chelone barbata*; Mr. Hutchinson second. Messrs. Harkness & Sons and Mr. Hutchinson were the principal prize-winners for Roses. The former staged good blooms in the class for twelve varieties, Mr. Hutchinson's were smaller specimens. For six varieties, three blooms of each, Messrs. Harkness & Sons were first, Mr. Hutchinson was second. For a basket of cut Roses, most tastefully arranged, Messrs. Harkness & Sons were placed first, and Mr. R. Dobson second.

There were three entries for a collection of four varieties of fruit, including one variety of Grapes. The Earl of Londesborough (gardener, Mr. J. C. McPherson) had a good collection, consisting of Muscat of Alexandria Grapes, good Peaches, and Nectarines and a Melon. The Hon. H. W. Fitzwilliam (gardener, Mr. J. S. Upex) was a close second with Black Hamburg Grapes, Stirling Castle Peach, Pitmaston Orange Nectarine, and Brown Turkey Figs; third, Mr. D. Lawson, Brompton. The Hon. H. W. Fitzwilliam staged three bunches of Madresfield Court Grapes; the Earl of Londesborough was second with Black Hamburg; Mr. T. Allen, Scarborough, was third with the same variety. In the corresponding class for white Grapes the Earl of Londesborough was an easy first with good bunches of Muscat of Alexandria, large berries and good colour; Miss E. Slater was second with the same variety; the Hon. H. W. Fitzwilliam third with Foster's Seedling. The Earl of Londesborough was first for a Melon, also six Apricots, Peaches, and Nectarines. Apples, Pears, and Plums were poor. For three varieties of dessert Apples Mr. J. Whitehead was first, and Mr. J. Horsley second. Mr. Whitehead was again first for six varieties of baking Apples; Mr. G. Howe, Brawby, second. Three varieties of Pears—Mr. Horsley first, the Hon. H. W. Fitzwilliam second. Small fruits were well represented. The vegetables were of fair quality, but the effects of the dry weather were noticeable. There were only two entries for a tray of eight varieties, Mr. J. Whitehead, Appleton-le-Street, being a good first, and Mr. R. Dobson second.

Ewell, August 9th.

SINCE the establishment of the Horticultural Society in this small and not very lively Surrey town, no such weather has accompanied the annual exhibition as was experienced on the above date, when the clouds poured out of their abundance the moisture from early till late, and the winds not infrequently threatened to bring down the tents. As a result the attendance was miserably poor and the finances must have suffered severely in consequence. The exhibition was as usual held in the charming grounds attached to the residence of Alderman Sir David Evans, and was in all its features an exceptionally good one. The executive, it was evident, had secured the hearty co-operation of the local gardeners as well as of cottagers and others, hence the admirable display which afforded those able to see it great satisfaction. The trade was represented by a capital group of *Caladiums* from Messrs. Peed and Son of Norwood, a miscellaneous collection of plants from Messrs. J. Laing & Sons, Forest Hill, and a bright collection of cut Roses from Mr. Will Tayler of Hampton.

The decorative groups in competition were very pleasing, and gave the judges some trouble. Eventually the best was found in one set up by Mr. Worsfold, gardener to Lady Glyn, whose background of blue and white Chimney Campanulas needed a Palm or two, but his front, and especially his edging of *Campanula isophylla alba* and silvery *Isolepis* was singularly pleasing. Mr. Davis, gardener to C. Durrant, Esq., had in his second prize group very fine *Gloxinias* and lancifolium Lilies. Mr. Whiteman, gardener at Ewell Castle, and Mr. Ewinton, gardener to Sir D. Evans, were placed equal third. For six plants in pots Mr. Whiteman was first, Mr. Peters, gardener to Major Coates, coming second. Mr. Whiteman had the best six *Fuchsias* in handsome plants, well flowered, and Mr. Peters was second with very free flowered, but less foliaged plants. The six best *Begonias* in bloom were staged by Mr. Ewinton; Mr. Davis coming second.

Cut flowers were capitally shown in boxes, Mr. Peters taking the first place in annuals with twelve fine bunches, including *Lavatera rosea*, *Phlox Drummondii*, *Scabious*, Sweet Peas, and *Mignonette*. Mr. Whiteman was second in the corresponding class for hardy flowers, there being again sharp competition. Mr. H. Pederick, gardener to Colonel Norbry Pott, was first with a beautifully bright exhibit, Mr. Whiteman coming second, and Mr. Worsfold third.

Fruit was in good form, Mr. Davis taking first place with four dishes of house grown Muscat Grapes, Peaches, Nectarines, and Melon, Mr. Ewinton coming second with similar fruits, Mr. Worsfold being third. With four dishes of hardy fruit Mr. T. Wood, gardener to J. F. Maingay, Esq., was first with Cherries, Peaches, White Currants, and Early Prolific Plums. Mr. Simmonds, gardener to M. Waller, Esq., was second, and Mr. Davis third, Mr. Whiteman having an extra. Mr. Davis was a good first for Grapes, having three capital bunches of Muscat of Alexandria; Mr. Ewinton came next also with good bunches of the same variety, not quite so ripe; and Mr. Cutchell, gardener to C. Chaloner Smith, Esq., was third with Black Hamburg.

Vegetables shown in flats were capital, some of the baskets being quite pictures, so excellent were the produce and arrangement. Mr. G. Farley, gardener to H. Secretan, Esq., who was first, had good Runner Beans, Peas, Potatoes, Tomatoes, Onions, and Marrows. Mr. Pederick was second, having capital Peas, Potatoes, Beans, and Carrots. Mr. Peters came third. There were numerous prettily dressed tables, the most pleasing being one by a parlourmaid, consisting of a ground in narrow wavy lines of *Gypsophila* and flowers of yellow *Coreopsis*, with a novel centre stand. The cottagers' products were abundant and excellent.



FIG. 45.—ANOMATHECA CRUENTA.

Anomatheca cruenta.

THIS charming Cape bulbous plant is exceedingly useful for decorative purposes. It is of comparatively easy cultivation, requiring similar treatment to the *Ixias*, to which it is closely allied. The plants are of a very dwarf nature, attaining only from 6 to 12 inches in height. The flowers (fig. 45), which are produced in great profusion, are of a bright scarlet colour blotched with crimson, and are produced continuously over a lengthened period, thereby making them indispensable plants where a display of flowers has to be kept up. The main flower stem is furnished with numerous flowering branchlets, and is terminated with a spike of from nine to eleven blooms. The plants must not be allowed to suffer through lack of moisture at the roots. After the flowering season is over, and when the foliage commences turning yellow, the supply of water may be gradually curtailed, but it should never be entirely withheld. The bulbs ought to be shaken out and repotted about the third week in February, placing from nine to eleven bulbs in a 6-inch pot. Good fibry loam and leaf soil, with a little sharp sand, will form a suitable compost for them.

A Novel Summer House.—A summer house in the trees would form a delightful resort in the very hot weather. Many well-to-do people in this country, according to a monthly magazine, can boast of such delightful resorts where they can retire and enjoy the cool breeze on a sultry day. Sir Thomas J. Lipton has two such summer houses above *terra firma* in his grounds at Osidge, Southgate, in the north of London. The tree on which one of these queer summer houses is erected is a very large one, and in summer, when the leaves are out, the view from it is most charming. The ascent is made by a rustic stairway. At the first branch the staircase divides in two, the upper one being intended for guests, the other for servants. It is furnished with seats and a table, and here its owner has wasted away many a pleasant half-hour.



Hardy Fruit Garden.

Raspberries.—Now that the summer crop is over attention should be given to the plantations. Cut out the old bearing canes to the ground, and remove the weakest of the young canes, leaving four to six of the strongest for the future crop. Suckers also round the stools or between the rows ought to be removed, unless some are wanted for future planting to establish new beds in the autumn. For this purpose those furthest away from the stools are best, provided they are strong. Should the longest canes be in danger of injury from wind secure them to the trellis or stakes. Hoe down weeds, clear them off the ground, and apply a mulch over the roots.

Strawberries.—The old beds overrun with runners and weeds should be cleared of these without delay. The best of the runners may be lifted and planted, either in permanent beds or in nursery rows, to remain until spring, when plant in rows at the proper distance apart. A light mulching may be given old beds after cleaning, especially if the soil is poor and light. Avoid heavy dressings of close, solid manure at this time, as being likely to promote gross growth late in the season. Thoroughly decayed manure, which is light and open in character, will act as an incentive to surface root action by maintaining the soil regularly moist, at the same time admitting air and warmth.

Peaches and Nectarines.—Plenty of light and abundance of air should reach the developing fruits of Peaches and Nectarines on outdoor walls. When colouring commences the fruits ought to be fully exposed to the influence of sunshine, hence it will be desirable to fasten shoots and leaves on one side where they obstruct the light. It is important now to nail in the summer shoots close to the wall, so that the fruits may have the benefit of the full light. Without this attention they fail to develop freely, or to ripen perfectly. Peaches ripening have enemies from which they must be protected. Earwigs are very active on walls where the joints between the bricks are defective. The best thing to do now is to trap them in short lengths of hollow Bean stalks placed among the branches, crumpled lengths of brown paper also answering. Examine the traps each morning, and destroy the captured insects. As further protection enclose each fruit in a net pocket, which will be useful to catch the fruit should it fall prematurely. It is best, if possible, to gather the ripe fruits before they fall.

Treatment of Late Peaches.—Every encouragement must be given these from the present time. Complete the laying in of young wood close to the wall or trellis. Lay in very little more than will be required for fruiting, because if crowded the growths will not ripen; nor will the present crop of fruit receive its share of light and air. While the fruit remains green, and during warm, dry weather, syringing the foliage daily should be carried out. Water at the roots, too, may be given freely, followed shortly after by an application of liquid manure. Also mulch the surface of the soil to retain the moisture.

Early Peach Trees.—The fruits will have been gathered from these. The best treatment to afford the trees is first to cut out the shoots which have borne the fruit, laying in in their place the reserved succession growths. Wood of a weak character and gross sappy growths may alike be removed, as both are unsuitable for furnishing. The next most desirable matter is to thoroughly syringe the trees with a solution of softsoap and sulphur. The foliage is usually more or less attacked with red spider, the pest gaining a footing during the ripening of the fruit when the weather conditions are dry and arid, and syringing the foliage has to be abandoned. Root watering, too, ought not to be neglected during autumn, especially if red spider has been more than usually prevalent. Lack of moisture for the roots is nearly always the cause of red spider attacks. The main objects to be attained are the health and cleanliness of the trees, activity and abundance of fibrous roots, and the complete ripening of the wood indicated by bold, plump buds, and firm, hard wood.

Young Trees.—Young trees of Apricots, Peaches, and Nectarines frequently grow very strongly at the outset, and require checking in order to subdue their vigour. This can best be done by lifting and replanting. The work should be done carefully, thoroughly moistening the soil and roots, and lifting with good balls. Cut off closely any long, straggling, thick roots, and replant on a firm base. Fill in and make firm all the soil round the roots. Give a good watering. Shade the trees from strong sunshine, and syringe daily for a time. Should the trees not be well furnished with fibrous roots it will not be safe to lift until the leaves commence to fall, which occurs in October.

Early Apples.—Joaneting, Irish Peach, Devonshire Quarrenden, and Mr. Gladstone Apples are good early dessert varieties. As the fruits become ripe they may be gathered. They are sufficiently ripe for the purpose when the fruits separate readily from the spurs. Early cooking Apples, such as Keswick Codlin, are attaining a fair size. The smallest

and medium sized may be removed, leaving the better specimens to enlarge. On some trees the largest should be utilised, allowing the medium sized fruits to develop.

Early Pears.—To secure the full flavour of the early varieties of Pears, such as Jargonelle, Beurré Gifford, and Williams' Bon Chrétien, the fruits must be gathered before attaining full ripeness. The best plan is to gather the fruits as soon as they part readily from the trees, and complete the ripening in the fruit room.

Fruit Forcing.

Cucumbers.—Encourage the autumn fruiters to make a strong but healthy growth, affording abundance of water at the roots, but not too much, with a moist genial condition of the atmosphere by syringing at closing time, and damping the floors and walls occasionally. Add fresh soil from time to time as the roots protrude from the sides of the ridges or hillocks. Sufficient fire heat must be employed to maintain the temperature at 70° to 75° by day, and prevent it falling below 65° at night. Old plants should have the exhausted growths cut away and others thinned where likely to be crowded, so as to admit light and air, securing a sturdy solidified growth and a succession of bearing wood. The syringe should be regularly employed about 3 P.M., and if mildew appear dust with flowers of sulphur in the evening, maintaining a somewhat drier atmosphere by judicious ventilation. Black aphides are sometimes troublesome. They are best destroyed by vaporisation with nicotine or by fumigation with tobacco paper. Care must be taken not to give an overdose, and the operation is most efficacious when performed in the evening and repeated early the following morning. The foliage should be dry, the smoke delivered cool, and free ventilation afforded afterwards.

Peaches and Nectarines.—*Earliest Forced Houses.*—Trees started in December and early January must not lack water at the roots. When this occurs during the formation and perfecting of the buds they become "deaf," and fall instead of expanding into blossom when started. Afford a slight shade to trees under fixed roofs, especially where the panes of glass are large, as this has the advantage of preserving the foliage in good condition, thus preventing premature maturity of the leaves, and the over-development of the buds, which is one of the causes of their dropping. Supply a top-dressing of phosphatic and potassic manure to weakly trees, and water as may be necessary to keep the soil in a moist condition; needless waterings only saturate the soil, sour it, and destroy the roots. Where the lights have been removed the recent rains and lower temperature, with the ammonia and nitric acid brought down, have a most beneficial effect on the trees, and no harm results, provided the borders are properly drained. Allow some laterals that are green to remain, as such unripe growths act as outlets for any excess of sap, a safeguard against starting the buds and promoting the activity of the roots. Early forced trees do not, as a rule, make strong growths, and there is often a preponderance of blossom over wood buds, hence in pruning it is not desirable to cut back next year's bearing wood unless the shoots are of great length. Very little pruning will be needed, providing disbudding has been properly attended to, and no more wood has been trained in than is absolutely necessary to replace that bearing in the current year, and to renew worn out growths.

Houses with Fruit Ripening.—A free circulation of air will enhance the quality of the fruit, and water need only be given to prevent the foliage becoming limp. Secure air moisture by an occasional damping of the house for the benefit of the foliage, also fruit, which in an arid atmosphere is liable to become mealy, whilst it ripens prematurely if the trees suffer by want of water. Ants are often troublesome. They take to treacle greedily. Bits of sponge held tightly in the fingers, then dipped in the syrup and there relaxed, will absorb some, and a gentle squeeze on withdrawing will leave enough in the sponge to entice the ants. These laid in saucers in their haunts will rid any place of the active creatures by immersing the sponges occasionally, with the ants in them, in boiling water. Cleanse the sponge each time and repeat the dipping. Partially picked bones, such as come from table, are admirable baits for ants, the bones, quite dry and fresh, being laid in their haunts, and when they are covered with the pests immerse them in boiling water. The bones, freed from the surplus moisture, are available for a considerable time, as the immersion in boiling water destroys the germs inducing putrefaction.

Late Houses.—Trees which have the wood thin have a better chance to ripen, and the foliage to elaborate the sap, than those with the summer growths laid on so closely as to impede air and light. On the assimilation of the food depends its storing in the buds and wood for another season the support essential for the blossom and embryo fruit. Gross growths tend to impoverish the weaker, appropriate an undue amount of sap, and tending to gumming and unprofitableness. They must be stopped or removed. An even spread of moderately short-jointed wood is desirable. Ventilate the house early in the morning, allowing a good heat by day, and closing so as to secure 85° or more, for sun heat after evaporation has been going on for some time will not do any harm if care be taken to admit a little air before nightfall and the temperature to gradually cool down, thereby securing rest. The night and early ventilation tends to the solidification of the growth and its ripening. Syringe to keep down red spider.

THE BEE-KEEPER.

The End of the Season.

THE unfavourable weather experienced throughout the country during the first week of August has kept the bees confined to their hives. Vegetation is advancing at a rapid rate. The rain, however, has come too late to be of any benefit to bee-keepers, as with the exception of the Heather the honey harvest is at an end. The past season has been an indifferent one for honey production, very little having been stored from the usual sources. Bee-keepers whose stocks were strong and in a forward condition obtained the greatest benefit, as many of our hardy trees were late in flowering. The bees were thus enabled to store a surplus much earlier than has been the case in former years.

All surplus chambers should now receive attention, otherwise the honey will be carried down into the brood nest. There are many flowers which produce honey till quite late in the autumn, but not in sufficient quantity for the bees to store a surplus. If they obtain enough for their daily requirements it is as much as can be expected: in some districts they will not do this. If the various colonies are not well supplied with stores breeding will cease, and this will be detrimental in the future. Stocks headed by young fertile queens having numerous young bees hatched during the present month invariably winter well and come out strong and healthy the following spring.

Removing Surplus Chambers.

It is useless to allow the supers to remain on the hive after this date, as they will decrease in weight, and the combs will become discoloured. If the weather is cold the bees will desert the supers. We prefer the middle of a warm day for removing all surplus chambers, the bees will then leave them readily if carbolie cloths are used as advised in previous notes.

The surplus chambers should not be allowed to remain in the open air exposed, or they will soon be cleared of their contents by robber bees. As each super is removed it should be carried to a place of safety out of the way of the bees. Those that have been worked for comb honey should be examined, and those not properly sealed over separated from the others. They should then be uncapped and passed through the extractor, and if placed in a crate on the top of the frames for a hour in the evening the bees will clean them of honey. They will then be in a proper condition for storing for use another season. Sections filled with fully drawn-out combs which are clean and in good condition make excellent starters for bees early in the season, when there is sometimes a difficulty in getting them to start work in supers. If the sections are packed in boxes and covered with paper so as to exclude the dust, and stored in a dry place, they will not require any further attention.

Supers which have been used for extracting purposes, and are filled with full-sized standard frames, should be examined, and those containing drone comb passed through the extractor, afterwards placing them in their original position in the hive at night; the bees will then thoroughly cleanse them of all adhering honey. They should be removed early the following morning, when few, if any, bees will be found on them.—AN ENGLISH BEE-KEEPER.

Carbolie Cloth—Queenless Stock—Robbing.

WOULD your bee expert inform me how to make a carbolie cloth to drive bees from supers, how to tell when a hive has lost its queen, and how to tell when robbing is going on, and oblige?—NOVICE.

[To a quart of warm water add 1 ounce of carbolie acid, mix well and shake the bottle before using, pass the cloth through the water, wring it out and use at once. Unbleached calico is the best for the purpose. The calico should be cut slightly larger than the top of the hive, as it may then be used either for supers or when manipulating the brood chamber. We can usually tell if a stock is queenless by observing the bees at the entrance to their hive. When in this condition they are invariably dull and inactive. The bees, too, will not fly any distance from the hive; neither will any pollen be carried in. Should doubt exist, examine the combs, and if neither eggs nor brood is found at this season there is every probability of the stock being queenless. The combs should then be carefully examined, and if the queen is not found steps should at once be taken to provide a young fertile queen, or to unite the bees to the nearest colony. If a stock has been queenless for some time, several queen cells will have been formed but not finished on some of the combs. Robbing takes place with more or less severity throughout autumn and spring. One has only to watch a strong colony during the middle of the day at this season, and observe how rapidly an intruder is turned out of the hive and rolled off the floor board. But no one can mistake a bad case of robbing. Usually it is a weak stock that is attacked. At first only a

few resolute bees may be observed hovering round the entrance. Directly they gain admittance they are followed by others, and in a short space of time the whole apiary is in an uproar, all the bees being anxious to obtain a share, the result is many are killed in their struggles. The stores are cleared out at rapid rate, and the few bees that remain will soon die of hunger if not attended to.—AN ENGLISH BEE-KEEPER.]

TO CORRESPONDENTS

All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing subjects them to unjustifiable trouble and expense.

Mint and Mushrooms (J. H. W.).—There is no such work published as you appear to require, nor is it likely there will be, as the sale for a book on such a small subject would probably not half repay the cost of production. We have heard that the gentleman you name has retired, but have no verification. Why not test the matter by writing to his last published address? We are not able to give you a northern introduction such as you desire.

Wardian Plant Cases (G. H.).—We do not know of a cheap work on Wardian cases, though we think a small manual was published many years ago, and has probably been long out of print. Burbidge's "Domestic Floriculture" (Blackwood & Sons) contains a chapter on "Gardening in Close Cases," and very much more interesting matter on the adornment of homes with plants and flowers. It was published (at 7s. 6d.) in 1875, and may still be in print.

Mulberries not Turning Black (Thirty Years' Subscriber).—It is difficult to explain why the majority of the fruits of the so-called Black Mulberry are red whilst some are of the proper colour. It probably arises from lack of heat to ripen the fruit properly, and also from the excessive crop usually allowed to remain on the trees, the fruit seldom or never being thinned. This receives a measure of confirmation from the fact that the fruit on trees grown in orchard houses is not only much larger, but higher coloured or black when thoroughly ripened, and of a pleasantly sweet, yet sub-acid flavour. There is also a great difference in variety, as the trees are sometimes raised from seed instead of by cuttings or branches of the trees that produce the best coloured, largest, and highest quality fruit.

Rose Leaves Diseased (A. H., Yorks.).—The leaves are infested with orange rust or fungus, the yellow or orange being the uredo stage, and the dark brown or black spots the final teleutospore stage, then known as *Phragmidium mucronatum* or *P. subcorticium*. In this form it is most disastrous to the leaves, injuring the tissues seriously, and causing the foliage to fall prematurely, thus weakening the plants. It may be prevented spreading by spraying with sulphide of potassium, 1 oz. to 3 gallons of water, delivering the spray upwards so as to coat the leaves on the under side, or dilute Bordeaux mixture may be used. The fungus survives the winter in the teleutospore condition in the leaves on the bushes, or on the soil, hence deep digging is advisable as a preventive, and also spraying the bushes with a simple solution of copper sulphate, 1 lb. to 24 gallons of water, or 1 oz. to 1½ gallon of water.

Will it Pay to Grow French Beans after Tomatoes? (Beginner).—In the recently erected two large glass houses now occupied with a late crop of Tomatoes, which will need fire heat to finish them off, you will hardly succeed with French Beans until after the turn of the days, and even then they are not always a paying crop, though they sell well in the early spring months. The French Beans succeed either in pots or in rows in the ground; but they require a night temperature of 60° to 65° and 70° to 75° by day, with a rise of 10° to 15° from sun heat, to do them well; they cannot have too much light, with free ventilation on all favourable occasions. The French Beans will not go off if sown early in the year before the end of March, and in that case it is likely they would interfere with the first stock of Tomatoes, as we presume you intend to grow them after the French Beans, which by that time should be well on the way in cropping. Besides, it is not advisable to attempt too much, but rely on the two crops of Tomatoes. Well decayed stable manure is the best for French Beans, and an excellent forcing variety is *Ne Plus Ultra*. Considering the price of coal in your locality we do not think they would pay. In some cases Mushrooms are grown successfully in the houses in winter, and we have found them pay much better than French Beans, the heat required being less, and they are by far the most certain crop.

Peach Trees Flowering on Current Year's Wood (S. Surrey).—The occurrence is somewhat rare, but not altogether exceptional, as we had a tree of Early York in a house started at the new year regularly, which, for several seasons, produced some grand flowers in August and even set the fruit, though this fell off shortly afterwards. This we attributed to over-maturity of the blossom buds, still it was only some of these that developed into blossom, the majority of the buds remaining dormant and giving the crop in the following year. In the same house were Royal George and Noblesse Peaches, with Elruge Nectarine, not any of which blossomed on the current year's wood. As the Early York Peach was at least a fortnight earlier in ripening its fruit than the other varieties, we regarded the blossoming as due to its earlier maturation of the buds and the continuance of the moisture from the other trees that caused some of the blossom buds to develop into flower. As there are hot-water pipes at the end as well as the side where the tree is situated, the heat from these—more than other parts of the house—would certainly tend to the earlier maturation of the buds and account for some of these blossoming. In our case, however, there were no such inducement, the tree in question being most distantly placed from the hot-water pipes. Such peculiarities are very interesting, and we often wonder why they are not more frequently recorded, as by an exchange of experience the wise are made wiser.

Cucumber Roots Diseased (A. J.).—The roots and root stems are affected by the root-knot eelworm, *Heterodera radiculicola*. It is one of the most difficult pests to eradicate from houses once it becomes established—in fact there is no remedy for root-knot eelworm once it has obtained a good hold of the plants, the females having encysted and been fertilised. The most effective article is perhaps Mustard dross, 1 oz. to 3 gallons of water, well mixing and keeping agitated whilst applying, about as much of the mixture being used as on an ordinary watering. The Mustard dross, however, is injurious to the root-hairs of Cucumbers, and must be used with great circumspection, experimenting on a small before applying on a large scale. If the plants of Cucumbers are taken in time, they may usually be saved from root-knot, root-stem, and stem eelworm by the use of Little's soluble phenyle, 1 fluid ounce to 6½ gallons of water—1 in 1000, the water being soft, or preferably freshly fallen rain water, as this contains some ammonia and also nitric acid, always applying slightly higher than the mean temperature of the house, and in quantity equal to an ordinary watering, and treating all the soil of the bed. At the next watering supply nitrate of soda, or preferably, nitrate of ammonia, 1 oz. to 6½ gallons of water, having the solution made at least overnight before application. At the third watering again use the solution of soluble phenyle, and at the fourth watering use the nitrate solution. Usually this suffices, though in some cases a third course of treatment may be advisable, and it certainly will not do any harm if resorted to occasionally.

Fairy Rings on Lawn (A. C.).—The Champignon, or Fairy Ring fungus, *Marasmius oreades*, is much in evidence this season, and many lawns, especially those on sandy and gravelly soils, are greatly disfigured in consequence. The advancing mycelium of the fungus abstracts the soil's nitrogen, and in turn gives it back to the ground, thus causing the grass to appropriate it and assume a relatively luxuriant appearance for a brief period, followed by extreme poverty. On a lawn thus greatly disfigured we applied a good dressing of short manure in the autumn, about 20 tons per acre, 2½ cwt. per rod, spreading it evenly, and leaving over the winter. In February the rough residue was raked off, and the lawn dressed with a mixture of air-slaked lime, soot, and dry wood ashes in equal parts by measure, using a peck of the mixture per rod. After the first rain the lawn was well rolled, and occasionally, so as to have it in good condition for mowing in due course. The enrichment of the ground obliterated the fairy rings by making the grass more evenly green all over, though in a dry time that followed they were more or less visible by the darker colour of the grass where the fungus was advancing in the ground. A dressing of soot, a peck per rod, was then given with a prospect of rain, and this following soon made all even again. By periodically manuring and top-dressing the fairy rings ultimately disappeared. It is the poverty of the soil that makes the fairy rings so conspicuous, and though they may not be entirely obliterated much can be effected to render the lawn equally verdant all over. On a similar lawn, and where manure was objected to, excellent results followed the use of a mixture of fishmeal, bonemeal, and kainit in equal proportions by weight, applying 7 lbs. of the mixture per rod in the early autumn, or not later in spring than February. In very bad cases it may be advisable to break up the lawn, bastard trench it, or stir as deeply as the good soil allows, not bringing up any bad to the surface, and enrich thoroughly with manure. We have used as much as 40 tons per acre, or 5 cwt. per rod, half applied to the ground before bastard trenching and the other half on the trenched land. The trenching being done in autumn, and the manure placed on it during frosty weather, the ground will be in excellent condition for pointing over in spring, levelling, firming, and sowing with grass seeds early in April. It is not necessary in such case to apply anything to destroy the fungus, as the rains of winter will make end of the mycelium through the ground being broken up. It may also be mentioned that the advertised lawn manures are useful in promoting an even growth of grass on a lawn from the nutriment they supply.

Apple Trees from Pips Losing Leaves (F. M. K.).—The Apple trees from pips raised last year and placed in a greenhouse without fire heat for protection, subsequently losing their leaves, will not be seriously affected in the roots, though the seedlings would be weakened. The cause of the leaves becoming covered with farina is commonly regarded as drought, though some consider a supply of cold water at the roots will bring on an attack at any time. The white farina is really a fungus named *Podosphaera oxycanthæ*, in the conidial or summer spore condition, and if this parasite be destroyed no treatment of any kind will reproduce it. The fungus may be destroyed by dusting with flowers of sulphur, or even more effectively and cheaper by syringing or spraying with hot water at a temperature of 135°, but this in the case of trees in pots may injure the roots, though it is easy to lay the plants on their sides. The seedling Hawthorn is affected by the same fungus, no doubt, it not being uncommon to find Thorn hedges quite white with the parasite, which is the chief source of the infection of Apple trees. It would be much the better plan to plant the seedling Apple and Hawthorn in the open ground, but you no doubt keep them in pots for a particular purpose.

A Twin Bunch of Grapes (Vitis).—As you probably know there are ways and means of adding to the size and weight of a bunch of Grapes in a clandestine manner, and making it something more than a legitimate bunch; but such fraudulent attempts to deceive are happily rare. The case you mention was, no doubt, a perfectly honest endeavour of the exhibitor to win in what he believed to be a strictly proper way. You say the specimen had the appearance of two bunches produced by one eye or bud. It was, therefore, in all probability a twin bunch. The matter was once concisely dealt with as follows by one of our correspondents:—"A bunch of Grapes should grow from a single eye and hang by a single stem; if from a double eye there will be two stems, which, for all intents and purposes, constitute two bunches—alias, twins or monstrosities." Still, if the judges were satisfied that there had been no intention to deceive on the part of the exhibitor, they would naturally hesitate to disqualify him, in the absence of the supporting evidence of a scientific authority. They presumably decided on the merits of the Grapes, and if the schedule announced "the decision of the judges shall be final," it would not be easy to overturn the verdict, if there were a desire to do so, even if they were scientifically wrong. We do not say they were either wrong or right, as we have never been able to judge Grapes from reading a letter, however intelligently written. Had we seen the doubtful bunch we should have known whether it came within the rule laid down for guidance by the late Dr. Hogg. It is generally in accordance with the above quotation. We will see if the Doctor's sketches illustrative of the subject are still in existence.

A Grape Malady (Smith).—The berries, microscopically examined, were affected by the "spot" fungus, *Glæosporium laticolor*. It has been unusually prevalent this season, and attacked the thick-skinned Grapes, such as Alicante, Gros Colman and Gros Maroc, as well as the thin-skinned varieties such as Duke of Buccleuch, Muscat of Alexandria, and sometimes Black Hamburgh. It has, in attacks on green berries, a close resemblance to "scalding," the spots shrinking and the parasite appearing arrested, but sooner or later small pustules appear in the affected part, and are the pycnidia of the fungus. There is no remedy, therefore the injured berries should be cut away and burned. As regards the "spot" appearing on many berries of two Vines, while not one berry out of at least 100,000 others in the same house of Gros Colman are affected, the subject is interesting and to some extent perplexing. But the fact of the attacked sport being an advance in size of berry, with short-jointedness of wood, there is the attendant susceptibility to disease in consequence of the exuberance, in the case of fruit and in the direction of fruitfulness—actually a concentration of forces—on a particular bud in the case of wood. The sport, though an outcome of high cultivation in this instance, would necessarily be constitutionally affected, and as a rule sports are weaker than the parental plant, hence the greater liability to attack of specialised parasites. But the third Vine of the same sport not being affected rather upsets the constitutional weakness principle. This, however, is conjectural, for we often see certain berries on a Vine affected with "spot" while others are perfectly clear. Some Vines also are affected and others are not, even in the same house and under apparently identical conditions. But there is no doubt a difference in these matters, too minute for human understanding, and it is just these differences that mark the distinction between susceptibility to and immunity from disease. The clear berries of a bunch of Grapes are certainly more elastic, stouter and disease resistant than the affected, and the same holds good with the sound Vine and that more or less diseased. These considerations require to be taken into thought quite apart from the distribution of the parasitic germs, for these are broadcast and ever ready to do their work whenever a favourable opportunity offers and a condition of "host" admits. It may be that one berry on a bunch appropriates more resistant matter than another adjoining, and so also with adjacent Vines, but upon these points science teaches us practically nothing. Close observation, investigation, and experiment may in time lead to a solution of what at present seems more or less mysterious. There are admittedly cases of disease in the human family that the most expert medicos cannot diagnose with certainty, and it would be strange if there were not corresponding analogues in the vegetable kingdom. The limits

of research are, however, not yet reached. Continue watching and thinking, but burn the bad berries of the affected Grapes, as they assuredly contain germs of future evils that will assert themselves when conditions favour their development.

Spots on Nymphaea alba Leaves (W. R. R.).—The spots are caused by a fungus closely allied to, if not identical with, *Ovularia obliqua*. As the fungus is wholly internal by its mycelial hyphae remedy is out of the question, but it would probably be arrested by spraying the leaves with sulphide of potassium, 1 oz. to 3 gallons of water. In a similar case and disease in fish good results attended "blowing" flowers of sulphur over a pond by means of a sulphuring bellows, it being, of course, distributed over the Lilies and other aquatic plants as well as the surface of the water, where it floats, and fish coming to the surface receive a shower of the sulphur.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (R. F.).—*Aesculus parviflora*, more generally known as *Pavia macrostachya*. We endorse your remarks as to its beauty. (R. W.).—To insure proper identification it is obviously necessary to number each specimen, and to pack them in accordance with the instructions given above. The scarlet flower is *Lilium chalcedonicum*; the deep crimson a form of *Agrostemma coronaria*; the small white *Achillea ptarmica* fl.-pl.; the yellow *Hypericum Olympicum*; and the cream a form of *Aconitum Napellus*; the *Pelargonium* flowers had all fallen. (W. K. R.).—1, *Crinum Moorei*; 2, *Escallonia rubra*; 3, *Geranium sanguineum*. (A. C. C.).—1, *Montbretia Pottsi*; 2, *Centranthus ruber*.

Covent Garden Market.—August 15th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ bushel ...	2 6	to 5 0	Greengages, box ...	0 4	to 1 6
Apricots, box ...	0 8	1 3	" sieve ...	4 6	6 0
Cherries, $\frac{1}{2}$ bushel ...	5 0	12 0	Lemons, case ...	10 0	30 0
" $\frac{1}{4}$ bushel ...	3 0	6 0	Melons, house, each ...	2 0	3 0
" cooking, sieve ...	5 0	6 0	Oranges, case ...	10 0	25 0
Currants, sieve ...	6 0	7 0	Nectarines, doz. ...	1 6	9 0
" red, sieve ...	4 0	6 0	Peaches, doz. small ...	1 0	2 0
Figs, green, doz. ...	1 6	3 0	" doz., good size ...	6 0	9 0
Gooseberries, ripe, $\frac{1}{2}$ bushel	2 0	2 6	Pines, St. Michael's, each	3 0	8 0
" green, $\frac{1}{2}$ bushel	4 0	7 0	Plums, $\frac{1}{2}$ bushel ...	3 6	5 0
Grapes, black ...	0 6	2 6	Raspberries, 12 lbs. ...	3 0	6 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	to 2 0	Leeks, bunch ...	0 8	to 0 0
Beans, Long Pods ...	2 0	3 0	Mint, green, doz. bunches	2 0	0 0
" French, sieve ...	2 0	3 0	Mushrooms, lb. ...	1 3	1 6
" scarlet, sieve ...	2 0	3 0	Mustard and Cress, punnet	0 2	0 0
Beet, red, doz. ...	0 6	1 6	Onions, Egyptian, bag ...	4 0	0 0
Cabbages, tally ...	3 0	5 0	Parsley, doz. bunches ...	2 0	4 0
Carrots, doz. bunches ...	2 0	3 0	Peas, English, per bushel	1 6	5 0
Cauliflowers, doz. ...	3 0	4 0	Potatoes, cwt. ...	5 0	10 0
Celery, bundle ...	1 0	1 9	Shallots, lb. ...	0 2	0 3
Cucumbers, doz. ...	2 0	4 0	Spinach, bushel ...	2 0	6 0
Endive, doz. ...	1 6	0 0	Tomatoes, English, doz. lb.	3 0	5 0
Herbs, bunch ...	0 2	0 0	Turnips, doz. ...	4 0	6 0
Lettuce, doz. ...	1 0	2 6	Vegetable Marrows, doz. ...	0 9	1 6
" Cos, score, from	0 6	2 0			

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	2 0	to 2 6	Marguerites, doz. bnchs.	2 0	to 4 0
Carnations, 12 blooms ...	1 0	2 0	" Yellow doz. bnchs.	2 0	4 0
Cattleyas, per doz. ...	6 0	12 0	Odontoglossums ...	3 0	4 0
Eucharis, doz. ...	3 0	4 0	Pelargoniums, doz. bnchs.	4 0	6 0
Gardenias, doz. ...	1 0	2 0	Roses (indoor), doz. ...	3 0	4 0
Geranium, scarlet, doz. bnchs.	4 0	5 0	" Red, doz. ...	1 0	2 0
Lilium lancifolium album	2 0	3 0	" Safrano, doz. ...	1 6	2 0
" rubrum	2 0	3 0	" Tea, white, doz. ...	2 0	3 6
" various ...	2 0	3 0	" Yellow, doz. (Perles)	1 0	2 6
Lily of the Valley, 12 bun.	8 0	18 0	" English:—		
Maidenhair Fern, dozen			" La France, doz. ...	1 0	2 0
bunches ...	2 0	4 0	Smilax, bunch ...	2 0	4 0
Mignonette, doz. bunches	1 0	2 0			

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	to 24 0	Foliage plants, var., each	1 0	to 5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	" pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each	2 6	5 0
Azaleas, various, each ...	2 6	5 0	" pink, doz. ...	12 0	15 0
Boronia, doz. ...	20 0	24 0	" paniculata, each	1 0	3 6
Cannas, doz. ...	18 0	0 0	Lilium Harrisi, doz. ...	8 0	18 0
Orotons, doz. ...	18 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	8 0	12 0
Erica various, doz. ...	8 0	18 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
Ferns, var., doz. ...	4 0	18 0	Roses, per doz. ...	6 0	18 0
" small, 100 ...	4 0	8 0	Stocks, doz. ...	8 0	12 0
Ficus elastica, each ...	1 6	7 6			



A Tight Corner.

YES, a very tight corner—anything that affects the purse pulls us up sharp. After all, it is money makes the mill to go, and, evil though it may be, we still need it sadly if things are to go on comfortably and easily. We are not going to touch on the depleted state of our own pockets, though, alas! in them the coins are few enough in all conscience. We are referring to the awkward fix in which some of the great show societies are now finding themselves. We really suppose the question resolves itself into one of over-production. We have lifted up our voice in the wilderness often before. Because a thing is good, is a success, it does not follow that it can be multiplied *ad infinitum*. A well managed, well attended show is a pleasant and profitable thing; but who are the people to whom these shows most appeal? The agriculturist, his family, and employes, the intelligent foreigner who comes to buy the best stock he can lay hands on, and the landed gentry. Outside these classes there are few really interested in shows—at least, their interest stops at 5s., or even 2s. 6d., admission fee. A jumping class will always attract, but a jumping class is not a feature in every show; indeed, we very much doubt its advisability under any circumstances. "Jumping" is really confined as a rule to a few professionals who go about "p-t-hunting" from show to show. Jumping is merely a spectacular effect, possibly amusing, certainly dangerous, and of no absolute value. Now we argue as the agriculturist, the gentleman from the colonies, and the landlord form only a small portion of the British public, the shows are overdone. When there were one, or perhaps two, really good local shows and the county exhibition the attendance was excellent; but now the fact is that almost every little town or district must have its show—it may be only for foals, with an added class for c-tagers' cows, or it may be one on lines closely imitative of the "Royal."

This year, taken as a whole, has been an awful revelation to showyard committees. The Royal got a tremendous knock down blow at Birmingham—a populous district in the very heart of England. Bad train organisation was blamed here. What about Maidstone? An isolated corner, poor communications, too far off for the northern contingent. What of York this year? Yorkshire, the glory of farmers, the finest county in England, grandest stock in the world, on the great main line south and north, near the busy towns of the West Riding, honoured greatly by royalty, blessed with fairly good weather; and what was the result? If such is the fate of the Royal, what of the lesser exhibitions? It is very painful reading to learn of empty show yards, for what appearance will 2000 persons make on Doncaster Race Common? And this was the great "Yorkshire." The story is repeated everywhere, all are suffering

alike—exhibits falling off, visitors absent, and expenses still going on. It is not that the prize lists have been much curtailed, in some cases not at all; it is not that the stock is in any degree inferior; but interest is dying, and money cannot be found to enable the people who might like to be present.

Many of these shows fall at a very busy season of the year—times when every moment is of value, and it is annoying to the farmer to find so many of his hands continually wanting “a day off” for some show. He is obliged of necessity to put some curtailment to this kind of thing. In our young days, when there was only one good show within reach, it was the custom to provide the best waggon with a coat of fresh paint, the horses with practically new harness, and the whole of the farm hands went off in gay holiday style. This was like Christmas, it came only once a year; now it might come nearly every week.

Of course we have all heard of the proposition before the committee of the “Royal.” With falling fortunes their expenses do not decrease, and something has to be done, and that speedily. Curtail the prize money. No, that is out of the question. The great expense is, of course, the immense quantity of shedding and pavilions that have each year to be put up. We cannot lay our hands on a very modern account, but we have found a list of some of the expenditure at the Warwick Show of 1892. Possibly some of our readers will be a bit astonished. Cost of erection of show yard:—Timber, £5004; ironmongery, £135; canvas, roofing felt, &c., £1436; wages, £2060; with sundry other expenses, making up a grand total of £10,034 12s. 3d. The sale of materials after the show realised £2880 7s. 10d. Now this has to be repeated every year, and it is a fearful let down to the exchequer.

The question now debated is, Shall the “Royal” have a permanent home, a fixed location where buildings once put up would (bar fire) last till needed no longer? There are many pros and cons, but the majority seem fully to think the permanent location must be, the question is, Where? There are many points to consider. The show-yard is no small enclosure. In 1839 at Oxford 7 acres were found sufficient. Now nothing much under 100 acres will do at all, and that space of ground, tolerably near a large town in a central neighbourhood, well watered and well shaped, is not easily met with. There must be every railway facility—look at all the miscellaneous exhibits, all the stock, and above all impatient visitors who brook no delay. Of course many people are in favour of a London suburb, and really London is a centre that draws everyone. The question is, Would the show in this case further the best interests of agriculture? An old and highly respected member suggests that England should be divided into five districts, West England, Eastern Counties, Central, Yorkshire, and Northern, and that shows should be held in each district once every five years. We wonder if he means that permanent buildings be put up in these five centres. The cost would be very great, and would it be worth while? In this case the show ground would have to be bought straight out instead of being rented or loaned. We doubt whether the scheme is practicable. It might be possible to have two locations, one north, the other south, and if the land were well bought the investment might prove a good one.

Then, again, there is a great outcry made, and not without cause, as to the length of time many of these shows are open. With the best possible accommodation the stalls and shedding at the shows are not so comfortable for the stock as their own special home quarters, and five days or rather more is indeed a long time to be without the comforts of home; then of course there are the attendants. They do not live at the show for nothing; nor does the railway transport them for nothing, and at home their place has to be filled somehow. People do not like to expose valuable stock to 1, a long railway journey; 2, indifferent accommodation lasting for a week. If some plan could be arranged by which the non-winners might be allowed to return to their homes after, say, two days exhibition, it would be an advantage.

We are not quite sure, and we hardly like to hint at such a thing, but is not showing becoming something of a profession?

We should rather like to see some sort of a handicap arranged by which outsiders might occasionally get a look in. We are not sure, too, whether sometimes breeding stock is got into such a high condition that it ceases to breed, else why do we so often see So-and-so's heifer failing to be in calf the prize goes to the first reserve? Tiptop condition is not conducive to breeding with safety or dispatch. We want to go one better than Nature, but she will not have it.

Could not something be done, too, to provide a better view of the rings to those people who cannot afford a stand ticket? and also we have many times had great reason to complain of the very poor provision for the inner man. Of course there is the costly luncheon, but for small purses and ladies' appetites there is little or nothing “fanciable.” We were glad to see the other day at a Highland Show that the Temperance ladies had taken the matter up and had provided pleasant and dainty meat and drink. We have heard the stockmen complain of the dearness of the pot of tea. Surely with good tea at 1s. 6d. per pound, and milk on the premises, they might have as much as they liked, and cheap. It is just the way to set them off to the liquor tent, for they must have something to drink, and it is a shame that tea should be dearer than beer. Can any suggestions be made by the outside public, or are they so absolutely sick of shows that they will not attend?

We are writing on Bank Holiday, and have just received the report of a favourite little foal show close at hand. Saturday was fine, harvest was not general, the exhibits were excellent, but the attendance practically nil. To-day the rain pours down in torrents, and there must be an awful deficit at the popular flower show held just across the valley. The executive has been literally coining money the last few years; how is it they can attract where the agricultural show fails?

Work on the Home Farm.

The past week has been a terrible one from a farming point of view. The daily deluge was bad enough, but the wind, sometimes almost a hurricane, has wrought endless damage. A great deal of forward Barley of the Standwell and Goldthorpe varieties has been necked, but the worst thing is the storm-broken condition of a large proportion of both Wheat and Barley. In exposed fields quite half of the stems are broken half-way down, and the ears hang close to the ground. Neither reaper nor scythe can cut this corn without beheading a considerable portion of the crop. The lighter and thinner pieces have suffered most, the heavy crops being much laid, but as a rule in only one direction, and reaping will be quite possible. The rain has made the ground so soft that reapers will only work under great difficulties for the next day or two, and it will be heavy work for the horses. With fine weather, however, the work must go on, for another wind with the crops as they are might be ruinous.

With harvest at a standstill the men have been able, when weather would allow, to go over the Turnips again for weeds that have been missed. It has been too wet for the horse hoe to do anything but harm, and the horses have been carting manure to seeds intended for Wheat or Potatoes. It is very heavy work, and the field roads will soon be cut through, but there is no other work possible, and we cannot afford to let the animals stand idle.

On wet days at this season the available hands may be usefully employed repairing sacks, which will soon be in full employment. Where Potatoes are grown, and baskets or scuttles largely used, basket repairing may also be done. Some have had handles, others have good handles but no bottoms. The former must go to the basketmaker, but the latter may be repaired at home. Sacks which are not worth mending may be usefully cut up and sewn into the bottomless baskets; they will last one Potato harvest, and possibly outlive the handles, which is all we can wish for.

Lambs are doing well so far, but the excessive rain may flush pastures more than will suit young stomachs. The grass in feeding pastures will be plentiful now to the end of the year, but both lambs and feeding cattle must have their cake if they are to keep up the good progress already made. Cake costs money, but the money is rarely wasted, and is generally an excellent investment.

A well-known manure and cake firm has just been entertaining their customers and receiving accounts. The first cheque received was one for £1000, and a well-known sheep and cattle breeder paid a bill of £1800. In both these cases payment would be made very cheerfully; the goods paid for have been used with great success and to considerable profit.

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Hyacinths, single, first size, named, in several leading sorts, red, white and blue varieties, equal quantities, my selection	20 6 .. —	
Single early Tulips, in the finest mixture	1 10 .. 16 8	
Double early Tulips, in the finest mixture	2 4 .. 22 6	
Duc Van Thol Tulip, mixed, excellent for early forcing	2 6 .. 20 0	
Sparaxis, in mixture	0 8 .. 6 0	
Triteleia uniflora, pure white, very fragrant	1 6 .. —	
Ixias, in the finest mixture	0 6 .. 5 0	
Crocus, first size, in the finest mixture	1 2 .. 10 0	
Crocus, second size, in the finest mixture	0 7 .. 5 0	
Crocus, yellow, third size	0 6 .. 4 2	
Spanish Iris, in the finest mixture	0 7 .. 5 0	
Iris Kämpferi, mixed Japanese varieties	5 0 .. 40 0	
Iris sibirica, all sorts, in mixture	4 0 .. 40 0	
Montbretia crocosmiaeflora, orange scarlet	1 6 .. —	
Narcis, Double Incomparabilis, primrose	1 6 .. 14 0	
Narcis, Single Van Sion, yellow trumpet	3 0 .. 29 2	
Narcis, Stella, white, yellow cup	1 4 .. 12 6	
Narcis, bicolor princeps	2 6 .. 23 4	
Gladiolus Marie Lemoine, cream, blotches purple	2 0 .. 19 2	
Gladiolus Brenchleyensis deep scarlet	2 6 .. 20 0	
Scilla Sibirica, intense blue	1 8 .. 15 0	
Hyacinthus candicans (Galtonia) white	6 0 .. 45 10	
Snowdrops, Galanthus Elwesii, giant flowered	1 10 .. 15 0	
Tritoma Uvaria (Red-hot Poker)	14 6 .. —	
Lilies, in fine mixture	12 0 .. 120 0	
Narcis, Pheasant's-eye (poeticus)	1 2 .. 10 0	
Single Anemone, The Bride, pure white	1 8 .. 15 0	
Single Anemones, in the finest mixture	1 8 .. 15 0	
Ranunculus, French varieties, mixed	1 0 .. 9 0	
Ranunculus, Persian varieties, mixed	1 0 .. 9 0	
Gladiolus Colvillei alba, pure white	1 2 .. 10 0	
250 Bulbs of the same kind will be charged at the 1000 rate; 25 at the price per 100; 6 at the price per 12.		
Collection D for spring garden, containing 1330 Bulbs, £1 1/-; half of this, 11/-.		
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Gardening Fancies.

TO-DAY the specialist is one of the strongest forces in the world of horticulture, and many of the developments of which we justly boast are largely due to him. In olden times the gardener was more or less an all-round cultivator, and busied himself with his fruit, flowers and vegetables, without showing any particular fancy for any of them. Of course there are thousands of this class to-day, but there are many others who are imbued with a decided leaning for one particular subject, and this I call a fancy. It may be a natural taste that persuades a man to direct his attention to one particular flower, for instance, or he may be educated to it. And a specialist is a persevering individual, and is not content to worship alone at the shrine of his own pet plant or flower. He wants others to share his fancy, and rarely fails to persuade them; for gardening tastes are educated as readily as palates.

It is well that our leanings are not all in the same direction, or our forward steps would be all on one road. But such is not the case. Take horticulture as the base, and collect all who are interested in it under one banner there, and tell them to go their several ways. It is one general scattering, varied tastes leading in all directions, with the result that no one path remains untrodden, and no plant that is amenable to cultivation is without a champion. We may look upon each other as cranks, but that matters not, for it is necessary to the advancement of the whole art. The champion of the Rose sees little to admire in the monstrous Chrysanthemum, and the man whose speciality is Daffodils sees more to please him in the simplest form than he does in the choicest Orchid. Nor is fancy confined to flowers, for you find it also in the fruit and vegetable garden.

During FIFTY-TWO YEARS the "JOURNAL OF HORTICULTURE" has been written by Gardeners for Gardeners, and in its principles, its practice, and its price it still remains the same. One alteration is perhaps, however, necessary. Our modern methods of production have rendered the price old-fashioned, and hence in order to meet the wishes of the present generation of Gardeners the "JOURNAL OF HORTICULTURE" will hereafter be sold for TWOPENCE instead of Threepence.

The enthusiasm of the Grape grower is something to admire, and the specialist has raised the culture of the Vine to a fine art. It is his own particular line, and he loves it. His interest is centred in size of bunch, form, bloom, colour, and finish. His best friends are generally Grape growers, and his favourite topic is Vine culture. I don't know how to explain it, but possibly Nature, who has adjusted all growing things so beautifully, has also imbued gardeners with varied tastes, so that the best of everything may be brought to the surface. The specialist of the kitchen garden has fancies quite his own. The florist may rave about his flowers, or the Grape grower his fruit, but in his eyes they pale into insignificance before a first-class bed of Onions or a dish of perfect Potatoes. In this way no branch of horticulture is neglected, but it is like a great army split up into many divisions, each one with its own followers.

Only recently we have had a wonderful illustration of what I call educated fancy in the great show of Sweet Peas at the Crystal Palace. For 200 years this charming flower has adorned our gardens, but it was only a flower, like scores of others. And then a few specialists arose to whom the Sweet Pea had peculiar charms, and they set to work on it, improved it, widened its scope, and called for volunteers to join them. They did not call in vain, for the way was open, and hundreds who had seen little in the Sweet Pea till then realised its possibilities, perceived its charms, and a new life lay before the flower. Not a life of generalism, but one of specialism, for the Sweet Pea enthusiast is now a power amongst us. The culture of this old garden flower is a fancy, and since it sprang into being, developments have been as remarkable as they have been rapid.

The plant or flower with great possibilities is the one which popular fancy leans to nowadays. Many have marvelled at the advancement of the Chrysanthemum, and really it has been remarkable; but I think the secret of it all lies in the possibilities of the flower. We know how far we have got, but no one can tell what there is in front of us. Moreover, the Chrysanthemum lends itself readily to the art of the cultivator, and results are largely dependent on the treatment given. Roses, perfect in form and finish, may at times be seen in cottage gardens where no special treatment has been given, and in this happy and chance characteristic lies one of the charms of the flower. But it is not so with the Chrysanthemum, for the flower is what the grower makes it. Without the unremitting care of the cultivator the Chrysanthemum is not much, and it is the wide scope offered which leads men to make it a speciality and direct their energies mainly towards its improvement. This fancy may not be a permanent one; indeed, there are some who say they can discern signs of falling off, but that is a matter which the future alone can decide.

Horticultural fancies are not confined to what we call professional gardeners, but are found in all grades of society, for of late years the amateur element has made tremendous strides. So broad has the term become, that gardeners may be found amongst all sorts and conditions of men—and not only gardeners, but specialists, who make a hobby of some particular plant or flower, and in many instances equal, and even surpass, the results obtained by their professional brethren. Perhaps, as a whole, the amateur is the best fancier, because, being untrammelled by other considerations, he can direct his whole attention where inclination leads him, and a concentration of energies invariably produces better results than where a division is necessary.

It is gratifying to observe what a hold gardening fancies have on the class known as unskilled labourers, and it is a healthy sign we hear a good deal nowadays of the way in which village populations are getting thinner, and towns, already full, are growing more overcrowded. But the men who uphold village horticulture are, as a rule, contented, and town life has no great charms for them. Moreover, the man who takes a pride in gardening is a good workman, and puts the same zeal into his occupation as he does into his hobby. I am intimately acquainted with many gardeners of this class, and am proud to know them, for though in the eyes of the public they may be voted ignorant they are formed of that sterling material which, after all, is the backbone of the empire. Being, as a rule, a family

man, the fancy of the cottage gardener is vegetables, with decided leanings in various directions. One makes a speciality of Onions, and proudly boards his massive bulbs on flower show day; another enjoys a local reputation as a Potato expert, which is well deserved; a third grows the best Carrots in the district, and so you may go on. Nor is floriculture neglected amongst our village gardeners; and only the other day I enjoyed a little chat with a farm labourer who makes a hobby of Chrysanthemums. He showed me a well-thumbed treatise on the subject that had been his guide, and was well versed in the stopping, timing, and disbudding of his score varieties. In regard to the latter, his collection was well up to date, and I suspect that some few luxuries of life had to be dispensed with in order to obtain them.

Another man makes a speciality of Roses, and all round his cottage garden there is an array of standards of many leading varieties. I don't suppose he ever read a line of gardening literature in his life, but he carried home the briers from the hedgerows on the farm, budded them with his own fingers, and is justly proud of his work. Fortunately he has a kindred spirit in the vicar of the parish, who is also a rosarian, and many of his best sorts have supplied buds for the cottager's stocks.

Fruit growing is the pet fancy of another village gardener, and the surroundings of his cottage represent a miniature nursery. Budding and grafting are his hobbies, and he has an artistic eye for the training of his trees. His boast is that every tree is of his own raising, and the row of espaliers which run alongside the garden path are worthy examples of training skill. He is not without a reputation either, and every spring his spare time is fully occupied in grafting trees for farmers and others in the district. He makes a little by it of course, but takes such a pride and pleasure in the work that I believe he would cheerfully do it for nothing.

These instances of gardening fancies crop up everywhere. They exist amongst the professional element and amateurs of the better class. You may find them amongst those whose gardening facilities are confined to a few square yards at the back of a suburban residence, and they stand forth conspicuously in the horny-handed fraternity who toil from morn till night in manual labour. Call them fancies, hobbies, or whatever else you like, but while they exist there need be no fear of declining interest in the time-honoured craft of gardening.—G. H. HOLLINGWORTH.

Stopping Fruit Trees.

A THOROUGH ripening of the wood is the foundation of successful fruit culture. Even such hardy things as Gooseberries and Currants are amenable to this principle, which, in giving extra solidity to the parts, gives at the same time fructifying powers. It is needless here to urge that sunlight is the chief agent in this process; all seem to admit the fact, yet few carry it thoroughly out in practice. Now, if sunlight, by shining uninterruptedly on the foliage, is productive of fruitful habits, it is plain that all unnecessary obstructions should be removed in due time, whilst the tree is in full possession of its elaborative powers.

It is necessary, for the sake of the learner, to make a distinction as to the character of the foliage, which in most fruits, and as applied to the case in hand, is divisible into two classes—viz., that in immediate connection with the embryo fruit spurs, and that which is simply the result of an effort to enlarge the system of the tree. The one, it may be presumed, has a direct and immediate office to perform, the other an indirect, and, in many cases, a remote one. These things ought not to be confounded; it is only by a proper classification of the functions of a tree in the mind's eye, that distinct and accurate views of the somewhat latent processes of Nature can be obtained. This much as preliminary to a few remarks on the practice termed "stopping."

Stopping is, or should be, practised for the following purposes:—1, to check gross shoots; 2, to admit light; 3, to check root action; 4, to concentrate the energies of the tree; 5, to ripen the wood. No. 1 procedure is principally exercised soon after the trees begin to shoot in the spring; the effect of this is forthwith to equalise the distribution

of the ascending sap. No. 2 is practised at a more advanced period, generally after disbudding is completed. We use it as a preliminary step to the total removal of superfluous sprays. No. 3 is a consequence involved in No. 2 procedure. It may be taken as a maxim, that as the branches are in point of rapid development, so the root-action is, or soon will be. There are, of course, some trifling exceptions to this, but such will in general be found the true bearing of the question. Of course, where trees are already too weak, such an operation would be folly; trees of this character, however, seldom produce too many shoots. No. 4, that the stopping of fruit-bearing shoots at a certain period has a tendency to concentrate the fruitful energies of the tree in the vicinity of the fruit, few will doubt. It is on this principle that the Vine-dresser proceeds, and he has not only the present in his eye, but the perfect maturation of those buds on which the future year's crop depends. In like manner, as steady growth, or one of an almost stationary character, tends to concentration, so a rapid growth tends to dispersion—such dispersion and concentration having a close bearing on the returning or elaborated sap. Thus if the problem were in a Vine, how to grow a thick stem in a short period, every shoot should be trained in during the growing season; but if the finest fruit and a fruitful habit for the next year, *vice versa*. No. 5. Ripening the wood is, it may be considered, a consequence of proceeding No. 4, and is an all-important affair; indeed, so much so in our estimation, that at the risk of being tedious, we have thus again gone over the old ground of stopping.

This is the exact time to urge that the last effort to secure a thorough ripening of the wood of fruit trees shall be made; it is now the eleventh hour as to man's interference. The question of covering and non-covering; to do this, and let alone that, all sink into comparative insignificance beside the great question of wood ripening. The neglect of this is productive of a variety of anomalies—hence bad setting, casting blossoms, a double amount of susceptibility to the late spring frosts, defects in the sexual character of the blossoms, imperfect development, premature casting of blossom, and such like. Such form a portion of the catalogue of evils which each returning spring presents; a pretty bill of fare truly, and mostly, I may add, "standing dishes." I do not pretend to say that a timely attention to stopping, and thinning will alone produce a perfect condition of wood, although a most powerful auxiliary. A proper condition of root culture must be carried out in connection with it; above all, avoiding very deep soils. Where soils are both deep and damp it scarcely matters what the system pursued is with regard to pruning and training; after all the pains possible, the production of fruit will always be on a precarious footing, if, indeed, a crop can ever be produced.

Let me now call special attention to the last stopping of this year; one which will combine the results to be expected from Nos. 2, 4, 5, in particular, and which, indeed, will tend in no small degree to a further equalisation of the sap in some trees, productive of symmetrical trees, and by consequence an equal and uniform distribution of the fruit. The Peach and the Nectarine may come in for the first operation, and the sooner the better. Our practice is to pinch the point from every strong-growing shoot all over the tree, taking care, however, to leave unmolested every shoot below the proper medium. On the last point I lay particular stress, and the reasons for, and utility of the proceeding, will surely be manifest on the least consideration. No sooner are the stronger shoots stopped, say about the middle of August (and these will in general comprise two-thirds of the spray), than the influx of sap has a tendency into the weaker shoots, and these enjoy this advantage for at least three weeks longer; this tends to feed their hitherto half-supported buds, and to give them an impulse, in the succeeding spring, of eminent service in opposing any blight, and, as observed, of equalising strength. The fruit, moreover, will be larger and better flavoured, and the wood on such shoots will be far better ripened, because ripened earlier. Let anyone observe, at winter-pruning time, the difference in texture between shoots of this kind and those which have continued growing some three weeks or a month later; the pruning knife is a good criterion of ripeness in the wood.

Pears I would operate on next, and in a similar way; also the Apricots. As for Plums, Cherries, and such like hardy fruits, they require much less assistance this way. Stopping alone is not all that remains to be done, as to the ripening of the wood. Thinning-out or shortening back any superfluous shoots which may have been missed at former operations must be attended to; indeed, the maxim must be to admit sunlight to all the embryo fruit buds as far as possible, for this is the period in which their formation is actually completed; they are, in fact, in a position somewhat analogous to seeds or grain three parts ripe.

Let Peach-growers remember, also, to remove the leaves from before their ripening fruit about a fortnight before they are ripe, pulling some entirely away, and pinching others half away. It is impossible to give them that fine colour for which a fine Peach is so much admired without attention to this.—R. E.

On Grafting.

"You see, sweet maid, we marry
A gentler scion to the wilder stock,
And make conceive a bark of baser kind
By bud of nobler race: this is an art
Which does mend nature, change it rather; but
The art is nature."

By the above quotation from "The Winter's Tale," it would appear that Shakespeare (whose profound knowledge of human life in all its phases has been, and will long continue to be, the wonder and admiration of succeeding generations of mankind), was by no means ignorant of the art of grafting. It is even reasonable to suppose that he would hardly have written the above lines had he not practised this art himself, or, at least, been thoroughly conversant with, and fully aware of, the desired objects for which the operation is usually performed. This art would, indeed, appear to be of the greatest antiquity, and the date of its discovery, like the name of its earliest practitioner, is hidden in the mists of countless ages. The practice is alluded to in Holy Writ, and Pliny and other ancient writers have also referred to the subject. In some of their writings fabulous descriptions are given of extraordinary fruit trees so grafted as to produce sundry and very dissimilar kinds of fruit, such as Apples, Plums, Figs, Grapes, &c., upon the same tree; but it will readily be supposed that if any such trees ever existed, they must have been produced by similar means to that said to be sometimes resorted to on the Continent at the present day, where trees are occasionally produced and offered for sale, on which appear to be growing the Orange, the Myrtle, the Pomegranate, &c., all upon one stem. All this, however, as may be supposed, is merely a deception, accomplished by boring out the centre of the stem of the largest variety used, and drawing the smaller stems of the other sorts through the hollow tube thus formed, each individual plant retaining its roots, and in this state a struggling existence is supported for a time. By the adoption of similar means the Strawberry plant has been represented as growing from the stem of a Rose tree. This, too, is accomplished by taking the runner through the Rose stem which had previously been hollowed out for the purpose, while the roots occupy the same soil as that in which the Rose tree is growing.

It may, I think, be reasonable to suppose it possible that nature or accident may have first suggested the practice of grafting, as instances are frequently to be met with in woods and thickets where branches of trees happen to cross and press upon each other; and the friction caused by the action of the wind in time displaces the bark, and as the branches increase in strength this friction is resisted and the pressure increased until the result is a permanent and organic union. This may be considered as grafting by approach, a practice which cultivators have imitated in the method known as inarching.

In all methods of grafting it is of the greatest importance that similar parts should be placed as much as possible in contact with each other, and on this account the method known as saddle-grafting may be considered amongst the best, as presenting the largest possible surface to receive the ascending fluid or sap. In performing the operation the stock must be cut into the form of a sharp inverted wedge; the scion split up the middle, and its sides pared down until it exactly fits the stock. By this method the leading shoots of Conifers and other trees can be grafted with great facility, performing the operation while the wood is only partially ripened, and this will usually be found to be the case about the middle of August. Whip-grafting is probably the commonest method of grafting, and that by which fruit trees, such as Apples, Pears, &c., are usually increased. Crown-grafting is usually resorted to in the case of aged trees, when it becomes desirable to change the variety. Cleft-grafting is performed by cutting the stock horizontally across, and making a vertical cut to the depth of 2 or 3 inches and introducing a wedge to keep the cleft open until the scion is fitted in, when the wedge must be withdrawn, a bandage applied, and the parts covered with clay or grafting-wax. Side-grafting is practised in cases where it is not expedient to head-down the stock, but where it is desirable to keep up or to restore the regularity of the branches or fruit spurs. Shield-grafting or budding is so universally understood and practised that to attempt to minutely describe the operation would be a waste of time. By this method many sorts of fruit trees, Roses, &c., are increased, and it may be successfully practised from the beginning of July until the end of September.

Inarching, or grafting by approach, has already been alluded to as having accidentally suggested the science of grafting. When it is practicable, it is justly considered as the most certain method of grafting, as it is not necessary to sever the scion from its parent, from which it continues to draw its support, until it can be ascertained that a union has taken place with the stock. Inarching is very easily performed, by merely paring away a portion of the scion down to the alburnum or wood, and making a corresponding wound upon the stock; fit the cut surfaces accurately, and

bind them tightly together. Grafting wax may then be used, but this is not always necessary. By this means Camellias are usually increased; the single-flowered variety, which is readily grown from cuttings, being used as stocks. This is also found to be an expeditious method of proving newly introduced varieties of the Grape Vine, taking for stocks young growing shoots of an established Vine. After carefully paring away corresponding portions of wood from the stock and the graft, both being in a green or unripened condition, fit them exactly, and bind them tightly together, taking care at the same time to avoid crushing or bruising the immature shoots; as soon as a union is formed let the ligature be slackened or removed, and the stock cut back to within an eye or two of the junction, in order to direct as much as possible the flow of sap into the scion. Root-grafting: the roots of many plants retain their vitality long after being separated from the other parts of the plants, and evidently only require the presence of buds to enable them to develop perfectly organised plants. Root-grafting has been found to be an excellent and very expeditious mode of increasing newly introduced plants, such as Roses, Clematises, Passion Flowers, &c., inasmuch as a very small portion of the kinds to be increased can be readily grafted on a corresponding portion of the roots of some of their more common or hardier congeners, and under favourable treatment they very quickly form healthy plants.

In addition to the various methods already referred to must be mentioned the system of double grafting, from which great advantages have been derived. It is found that some of our most delicious varieties of Pears succeed but indifferently when worked upon the ordinary Pear stock, also when grafted upon the Quince; but when the system of double grafting is adopted, a vast improvement is effected in the healthy development of the delicate varieties, and a corresponding improvement in the quality of their fruit. The method usually pursued is to graft the Quince with some of the stronger-growing varieties, as a "go-between" or intermediate stock, and on this to bud or graft the more delicate but desired varieties.

In the case of Cherries the stocks in general use are the wild Cherry and the Mahaleb. The latter, on account of its surface-rooting properties, bears a similar relation to the wild Cherry that the Paradise does to the common Crab as stocks for the Apple. For the grafting of Apples, when intended to be cultivated as standard or orchard trees, the common Crab is, doubtless, the most suitable stock; but for the more delicate dessert varieties, more particularly when the trees are intended to be grown as espaliers or cordons, the best adapted stock is, doubtlessly, the Paradise or Doucin, or Pommer de Paradis of the French. There would appear, however, to be more than one variety of the Paradise stock in use, and there would even appear to be some diversity of opinion as to which is the true variety, "and when doctors disagree who shall decide?"

So great, however, is the influence which the stock exercises upon the scion, and the scion to some extent upon the stock, and so vast is also the influence of soil and situation on both, that the subject of stock and scion opens up so wide and extensive a field for research and inquiry, that an excellent practical pomologist has said that our three-score years and ten hardly afford sufficient time to thoroughly explore and investigate it.

That the stock to a very great extent influences the scion as regards vigour of constitution, and in fruit trees productiveness and quality of fruit, is not to be doubted; and that the stock and the scion cannot in any degree influence or alter the specific character of each other may also, I think, be taken for granted. But the problem yet remains to be solved as to whether or not other conditions or peculiarities than have yet been alluded to can or cannot be produced by the influence of the one upon the other; and should it be found that the scion and the stock are really capable of producing or developing certain conditions or peculiarities in each other, it will also be interesting and necessary to ascertain whether or not these peculiarities are of so permanent a character as to be retained by a part separated from the individual plant upon which they were first produced. If this should be found to be the case, then this production may, I think, with propriety be regarded as a "graft hybrid"—that is, a distinct variety, the united production of two other distinct varieties, partaking more or less of the nature and character of each of these varieties, and produced without sexual union.

My attention was drawn to this circumstance some time since by reading some extracts from an essay "On the Circulation of the Sap," by Professor Bradley, of the University of Cambridge, and dated so early as the year 1757. This learned professor says, "We find by inarching or inoculating a variegated common Jessamine, whose leaves are edged with white, into either the plain common sort or the Spanish Jessamine, or the Indian or Brazil kinds, that the malignity which causes the whiteness in the leaves of the first mixes itself in such a manner with the juices of the plant it is engrafted upon, that their leaves become infected or tinged in some places with white colour. If we put only a bud of the variegated sort into a plain Jessamine 10 or 12 feet above the ground, the poison will reach the branches

next the root, as well as those which are at a great distance above it." It is certain, from what the learned professor says, he believed the condition of variegation, at least, could with certainty be communicated from the stock to the scion, also from the scion to the stock; and on reading these extracts the conclusion I came to was that experimenters of that period must have been similar to their brethren of the present day—viz., somewhat inclined to jump rather hastily at conclusions, and I regarded this leap on the part of the learned professor as a somewhat remarkable performance. At the same time, it really does appear that there are authenticated cases to be pointed out, where the entire stock appears to have been infused or inoculated with the conditions of variegation by the simple insertion of a variegated scion or bud. As cases in point, mention may be made of the Breadalbane Ash, the Chelsea Jasmine, &c., and also the case of a green-leaved Abutilon which had been grafted with a variegated variety, and which appears to have induced the stock to throw out variegated shoots.—G. M. C.

Earthing Celery.

WE have just finished earthing-up to its full height the dwarf Celery we intend for use early in September. Our next bed of the Incomparable White is tolerably strong, but shorter than usual. One advantage of this variety is that if you grow it from 15 to 18 inches high you can send it to table 12 or 15 inches in length. We have had fine specimens for the salad-bowl from plants not more than 16 inches in height—a matter of importance for the holders of small gardens. We generally grow ours in beds, three or four rows across. Such dwarf sorts, it will be observed, need little earthing-up, and as we tie every plant with a slight strand of matting there is no difficulty whatever in the earthing, with or without boards placed across between the rows. The bed referred to we have had thoroughly cleaned at the bottom, removing all suckers with the point of a knife, but without injuring the leaves or leafstalks of the main plant. These plants being of a good size when planted out were looked over then, but still a few more suckers will be likely to show themselves, and if left untouched, especially when the planting is rather close, will so far detract from the strength of the main plant or head. Sometimes in early Celery we have left the suckers, and then on taking up for salads the smaller blanched suckers proved useful for soups and stews. We have thus had a good stick for table in the centre, and from four to half a dozen small blanched sticks or shoots round it. In general, however, the best Celery is obtained by nipping out all the suckers that appear, so that the strength of the roots shall be thrown into the one main plant or stem. After planting, it is of little use removing the suckers until the plants attain a good size.

Having thus dressed the bed, we proceed to tie the plants 8 or 10 inches from the ground level. In tall sorts, as in a red bed, the strands of matting are placed higher, according to the height of the plant. This tying encourages the central leaves of the plant to rise, and even causes blanching to commence at the centre. There is no nicety required in this tying, except to be careful to tie loosely enough, so as to leave plenty of room for the plant to expand in growth. Even men accustomed to the work are apt to tie the plants too tightly. All that is wanted is to keep it together, but to give plenty of room for expansion. The object of the tying, besides what is stated above, is to keep the heart free, and prevent earth finding its way there, as it often causes the centre to decay. The disadvantages of tight-tying are that the band is apt to cut the outside footstalks of the leaves, and the heart, instead of rising freely, is forced to turn back on itself or protrude at the sides.

The removal of the suckers and tying involve trampling the surface of the bed; therefore, when tying is finished, the points of a light fork should be used on the surface; and a little soot may be strewn along the bed, and a good watering given. In a week or so the most careless tyers will see the importance of loose tying, as generally with such encouragement the growth is very rapid, after removing the surface. This bed will be earthed-up at one operation, or at most in two—generally at once—in pieces as we expect it to be wanted, say three weeks beforehand. When long tied, less time will do. For instance, in this large bed, most likely eight days or so after giving a good watering, we shall earth up at once 4 or 5 yards of it, following with a piece more every eight or ten days, until the bed be finished, and so on with the succession beds. By doing this a bolted or run head of early Celery is with us a rarity. We cannot say what may be the case this season, for our young Celery had scarcely justice as respects moisture; but for a number of years we had not a single bolted head of early Celery when we used to have it much earlier than now—that is, fit for use in the beginning of July. Of course when to be used so early it had to receive a considerable amount of artificial heat; in fact, the trench that ultimately received it was a mild hotbed at the bottom.—Z.

Culture of Pot Vines.

We grow some thirty pot Vines here every year, and fruit them the following season. The buds are started in 3-inch flower pots the latter end of January or beginning of February, in a compost of half loam and half leaf mould, sifted through a $\frac{1}{4}$ -inch sieve, with a little river sand added to give it porosity. In preparing the buds the plumpest and best are selected, and about half an inch of wood left on either side of the bud. A thin shaving of wood and bark is taken off the under side to induce a freer production of roots.

The pots receive one crock in the bottom to cover the hole, and are then filled to the top with earth, and the buds pressed firmly down in it, and covered to the depth of a quarter of an inch and the soil made firm all round it. After the buds are potted the pots are placed close together on the surface of a border in one of the plant stoves, and attended to in the way of watering till roots and buds have started into growth. When they have made shoots from 4 to 6 inches long, they are then shifted into 5-inch pots, and put back in the same place they were in before. More loam and less leaf mould is used when giving this shift, and a little old mortar added to it instead of sand. When potting the plant is placed a little deeper in the pot than it was before, and the soil pressed moderately firm all over, after which, neat little stakes are put to each plant to train them.

The Vines are never allowed to suffer for the want of water from the start to the finish of their growth. In hot weather they are sometimes lightly sprinkled two or three times a day with a fine rose watering pot at this stage. When the plants have grown to the height of 16 inches, and have filled the pots with roots, they are shifted into 8-inch pots. The pots are well drained, and a little wood ashes and Thomson's manure are added to the soil mentioned for the previous shift. In giving this shift two of the lower leaves of the plant are cut off close to the stem to allow of the plant being put a little lower in the pot than it was before, and to induce the stem to root up to the surface. And the same thing is done when giving them the final shift into 12-inch pots.

The plants are now set out thinly close to the front lights of the house, where they make short sturdy growth. The tendrils are

removed as soon as they appear, and the laterals and sub-laterals stopped at the first leaf all through the growing season. The temperature of the house is kept up to 70° by fire heat, and allowed to rise 10° or 15° higher with sun heat, and the Vines are gently syringed every evening when the house is closed for the night.

With liberal treatment the plants make rapid growth, and in a short time they are transferred into their fruiting pots. The pots must be clean and well drained, and the soil rammed down firmly between the sides of the pot and ball of the plant, leaving sufficient room at the top of the pot to give the plants copious waterings.

The pots after the final shift are placed close to the front wall of the house, and the Vines are trained on a trellis close to the roof, and allowed to grow 10 feet in length before they are stopped. The work after this is chiefly removing tendrils, stopping laterals, watering, syringing, and keeping the plants clean and healthy till they have finished growing, when they are removed some time in September and placed on a trellis outside, where they ripen their wood thoroughly. As soon as the leaves have fallen the canes are pruned, leaving them as near 9 feet in length as possible. They are then stored away till required for forcing the following spring.

The Vines are fruited in a span-roofed house (fig. 46) some 12 feet wide and 13 feet high, with a bed of earth round the sides. The pots are plunged in the bed to the rim, and the canes tied down horizontally until the buds have broken, after which they are tied to the trellis, and the lateral branches bearing the fruit are trained to cover it.

The Vines receive the

same treatment as permanent Vines, and are frequently watered with liquid manure during the time the Grapes are swelling. Each Vine bears on an average from sixteen to eighteen medium-sized bunches, which finish off well, but I have had canes of Black Hamburgh ripen twenty bunches, and as fine bunches and berries as those on the permanent Vines. Some varieties are better adapted for pot culture than others. I find that Black Hamburgh, Black Alicante, Alnwick and Foster's Seedlings are amongst the best for pot culture.

—A. PETTIGREW, *Castle Gardens, Cardiff.*



FIG. 46.—POT VINES AT CARDIFF CASTLE.

Allotment Gardens for Sheffield Workers.—The Sheffield Corporation Allotments Committee has been presented with eight acres of land on the Newfield Green estate for use as allotments, which are in much request in the neighbourhood of Sheffield.

Shrewsbury Floral Fête.

August 22nd and 23rd.

THE superb horticultural spectacle which has come to be regarded as one of the most important events in gardening circles has once more to be reported, and the stereotyped phrase of "a magnificent success" must again be employed. Never in the entire history of the Shrewsbury Floral Fête has a better gathering of all that is beautiful and useful in the gardens of Britain been brought together, and the hum of conversation in the Quarry told nothing but praise for the exhibition, its managers, and its supporters. Never was there a more enterprising committee than this, and never were there two honorary secretaries who excelled in zeal, energy, and ability than Messrs. H. W. Adnitt and W. W. Naunton; they are the spirit of the whole affair, and too much praise (though they seek none of it) could not possibly be accorded to them for the work they have done and are still doing.

We do not purpose on this occasion to draw any invidious distinctions as to the best features; where there are examples of perfect culture in every department of the show such a course bristles with difficulties, and might not, when decided, coincide with the views of all readers of the *Journal of Horticulture*. Let them read carefully and form their own conclusions—that is to say, those who did not find their way to Shrewsbury to be hustled in what is probably the biggest crowd that honours a horticultural show with its patronage. Suffice it then to say that the most artistic groups, the most splendid plants and flowers, the most handsome fruit, and the cleanest and most shapely vegetables haunt Shrewsbury year after year, and give delight to thousands of critical visitors. They do even more than this, for they fulfil the highest object of a flower show, which is to provide lessons for cultivators, and form for them ideals that they strive strenuously to attain to and to excel. Our time and space are both limited, but the best report obtainable is appended herewith for the readers and supporters of our Journal.

The weather on the evening of Tuesday was far from being promising for the show on the following day, as a heavy thunderstorm passed over the district; rain fell heavily during the night. This down-pour made locomotion over the long grass of the Quarry particularly unpleasant, and if the powers that be could have the grass scythed on future occasions it would be advantageous in any case, and especially so if it should again be wet. The whole of Wednesday was a day of sunshine and showers, and the latter were sufficiently heavy to drive the visitors into the tents in crowds. We trust, however, that it will not have prejudiced the attendance, and that to-day (Thursday) will have been fine in the town that is celebrated alike for its flower shows and its cakes.

Plants and Groups.

Shrewsbury has always been noted for its stove and greenhouse plants, and while the society continues to offer £60 for twenty plants, not less than twelve in bloom, we may expect a grand show as made on this occasion. There were four competitors entered the lists, and one might say the whole of the plants were of the best quality. The veteran exhibitor, Mr. Jas. Cypher, Cheltenham, proved to be a splendid first. The plants were all giants, the foliage plants being grandly coloured, while the flowering subjects were staged in the pink of condition. In the foliage section Crotons *angustifolius* and *Warreni* were clothed well, while Queen Victoria and Sunset were simply magnificent in colouring. The Palms were *Kentia australis*, *Kentia Belmoreana*, *Latania borbonica*, and *Kentia Fosteriana*, all immense plants. The flowering subjects were *Bougainvilleas glabra* and *Cypheri*, both grandly flowered; *Ericas Austiniana*, a grand piece; *Aitoniana*, *Irbyana*, and *æmula*, a grand plant; *Rondeletia speciosa major*, *Phœnocomia prolifera Barnesi*, about 6 feet in diameter; *Statice intermedia*, a glorious plant; a well flowered specimen of *Allamanda nobilis*, with *Ixoras Duffi* and *Williamsi*. This exhibit made a flower show in itself, and was in every way worthy of the prize. Mr. B. Cromwell, gardener to T. S. Timmis, Esq., Allerton, Liverpool, made a good second, his plants of *Ixora Williamsi*, *Lapageria rosea*, Crotons Queen Victoria and Countess being excellent; while Mr. W. Finch, Coventry, was a good third with some fine specimens.

Groups of miscellaneous plants to occupy a space of 300 square feet are not met with every day, but here they formed a grand feature. The schedule states that they must be arranged to produce the best effect, while a special clause is added, that the judges are instructed to regard an original and artistic arrangement as a great feature; exhibitors could hardly go wrong with such precise instructions. The prizes of £25, £17 10s., and £10 necessarily attract a high standard of excellence, and on this occasion there were three groups all of them very fine. The space at the disposal of the exhibitors is certainly

made the most of. Mr. Jas. Cypher again proved the victor, his group as a whole was beautifully light and elegant. *Cocos Weddelliana* and *Bambusas* with a few well coloured Crotons, Caladiums, Aralias, and Ferns were used as dot plants, while Ferns, *Asparagus plumosa*, Begonias, and *Dracænas* constituted the chief of the foliage plants. Orchids, Lilliums, Francoas, and Begonias were the chief flowering plants employed, but the Orchids were used with great effect. Mr. W. Finch, Coventry, was a good second with a light arrangement. The Crotons were particularly handsome, while the whole exhibit was well finished. The third prize fell to Mr. W. Vause, Leamington Spa, for a very creditable exhibit, though it was not finished quite so well as its predecessors.

A similar class for ornamental foliage plants, Palms, Ferns, &c., with all flowering plants excluded, produced a grand effect. The prizes were of the same substantial character as in the preceding class. There were four exhibits, and a grand show they made too, all of them worthy of a first place. Mr. Cypher was again invincible with a beautiful exhibit, and one would hardly imagine a more tasteful arrangement of foliage plants. The Palms, Crotons, and Aralias formed the chief feature, while the smaller plants were all choice and well grown. Miss Wright, Halston Hall, Oswestry, was second with a somewhat similar arrangement, but it lacked the finish so notable in the first prize group, while Mr. W. Vause was third with a beautiful exhibit.

A most interesting and highly satisfactory class was that for thirty stove or greenhouse plants in pots not exceeding 10 inches, with Orchids excluded, not less than twelve in bloom. Again there was the special clause, "effective staging to be considered by the judges." Needless to say, such a class brought out some grand plants, while the majority of the exhibitors had paid marked attention to their staging. The prizes also were worthy of note—£20, £15, and £10. The exhibitors, three in number, made a grand collective display. Mr. T. Lambert, gardener to Lord Harlech, Oswestry, was first for a splendid collection, which, however, was unnamed at the time of judging. The most notable plants were the *Dipladenias*, *Statice*, *Ixoras*, *Calatheas*, and Crotons. Mr. Jas. Cypher made a capital second with good plants of *Statice intermedia*, *Anthurium Wardi*, *Erica obovata purpurea*, and *E. Austiniana*; while Mr. B. Cromwell came in third with good specimens of *Gloriosa superba* and *Ixora coccinea*.

In the class for a single specimen stove or greenhouse plant in flower there were three entries, Mr. Jas. Cypher being first with a grand plant of *Erica Marnockiana* in the best of condition. Mr. W. Finch was second with a much poorer example of the same plant, and Mr. W. Vause was third with a poor plant of *Allamanda*. The exotic Ferns, six in number, only brought one exhibitor from Mr. T. Stevenson, who was deservedly awarded the first prize, for the plants were large and well grown, though unnamed.

Six specimen *Dracænas* brought two entries, some of the specimens being fine. Mr. T. Lambert, gardener to Lord Harlech, was first with good plants of *norwoodensis*, *Thomsoni*, *amabilis*, and *Baptisti*. Mr. J. Birch was a capital second with well grown plants of similar build. For four *Coleuses*, pyramid trained, there were three competitors. The type of plants demanded by the schedule made a capital show, and are more natural than the low flat trained plants one so often sees at flower shows. The exhibits were not large but a good colour. Mr. T. Carter was first, with clean, well coloured plants; Mr. T. Stevenson, gardener to Mrs. J. H. Stanley, Wellington, came next with rather smaller plants, while Mr. Ed. Burd, Newport House, was third.

The lovely foliage of the Caladiums with the green turfy carpet beneath them was much appreciated. Here again there were three contestants, and Mr. B. Cromwell won handsomely with fine, well coloured plants. The best were *candidissima*, *Marie Mitzama*, and *Souvenir de Madame Burnaert*. Mr. S. Bremmell, gardener to H. H. France Hayhurst, Esq., Wellington, followed with pretty plants, while Mr. T. Stevenson was third. Fuchsias are always grown well in the west, and the exhibits on this occasion did not injure the reputation, but rather added to it. Only two exhibitors staged; the first prize plants were excellent, and Mr. T. Carter is to be congratulated; Mr. A. Bateman was second with weaker plants.

For six double Geraniums, for which substantial prizes were offered, there were three exhibits, Mr. A. Myers winning in fine style with six fresh, bright plants. Mr. A. Bateman was a fair second, and Mr. H. Cliff brought up the rear. The class for six Zonal Geraniums was a good one, there being three good entries. The first prize was awarded to Mr. A. Myers, Sutton Lane Nursery, for six grand plants. Mr. A. Bateman followed at a respectful distance, and Mr. R. Taylor made a poor third compared with the others.

The Begonias were good, and the competition fair, there being three entries. Messrs. B. R. Davies & Sons, Yeovil, being a grand first with double varieties; Mr. A. Bateman was second with weaker plants, and Mr. H. Cliff third. For twelve Gloxinias two entries were made, but the class must be described as weak. The judges awarded Mr. A. Jones, gardener to G. Burr, Esq., Oaklands, second prize, and Mr. H. Cliff, gardener to R. Taylor, Esq., Abbey Foregate, third.

The class for twelve table plants was well filled by three competitors, the majority of the plants being above the average. Mr. B. Cromwell was a grand first with beautifully coloured Crotons, and *Dracæna Jamesi*, *Cocos Weddelliana*, and *Aralia Veitchi*. The second place was awarded Mr. A. H. Hall, gardener to J. C. Waterhouse, Esq., Macclesfield, for a good collection, though not quite so bright as the preceding dozen.

while Mr. W. Dawes, gardener to Lord Trevor, Chirk, was third with typical plants.

A novel display was produced by the collections of thirty plants, in pots not exceeding 5 inches in diameter, with the goodly proportion of twenty plants in bloom. The prizes of £2, £1 10s., and £1, insured a good collection. There were four entries, and Mr. J. Birch, gardener to Capt. H. L. Butler, Shotton Hall, Shrewsbury, was placed first for a collection of plants that included tuberous Begonias, Liliums, Crotons, and Dracenas. Mr. B. Cromwell came second with better quality, though a rather uneven set, and Mr. J. Carter, gardener to W. T. Scott, Esq., Besford House, a good third.

The following seven classes were confined to the county of Salop, and the most of them were a credit to the county. For a group of plants to occupy a space of 150 feet, Orchids excluded, with prizes of £10, £6, and £3, three competitors faced the judges, and the premier award was allotted to Mr. S. Bremmell for a light, pretty group tastefully displayed. Miss Wright followed with a distinctly pretty arrangement, and Mr. S. Grimmer, gardener to W. G. Phillips, Esq., was third with good plants, but finish was lacking.

For six stove and greenhouse plants, not less than four in bloom, the competition was decidedly good, and Mr. T. Lambert proved a good first; his plants were *Dipladenia amabilis*, *Clerodendron Balfouri*, and *Croton Countess*; and Mr. S. Bremmell was second with good plants of *Clerodendron* and *Statice*. The exhibitors in the two preceding classes are not allowed to compete in the two following. For six stove and greenhouse plants, not less than three in flower, there were four entries; and here again Mr. J. Carter won with ease, the Fuchsias and *Colens* being good. The second position was taken by Mr. A. Jones, who staged good plants of *Stephanotis floribunda*; and Mr. H. Worrall came third.

For three Fuchsias grown in pots not exceeding 8 inches Mr. A. Bateman was first for three nice plants, followed by Mr. H. Cliff with much poorer plants, and Mr. J. Farrant came third. Tuberous Begonias, three in number, brought out three exhibitors, but the plants were of a very ordinary character. Mr. H. Cliff was placed first for three fair plants, Mr. A. Bateman followed, while Mr. J. Farrant brought up the rear.

For three double Geraniums there was three entries. The first position was taken by Mr. J. Carter for bright plants, who was followed closely by Mr. H. Worrall, gardener to J. Barker, Esq., Old Grammar School House; the third prize fell to Mr. J. Farrant for smaller plants.

The popular Zonal Pelargoniums had only two competitors, but the first prize plants staged by Mr. J. Carter were good; Mr. H. Worrall came second with larger plants though with fewer flowers.

Cut Flowers.

These classes were a great feature, and made a splendid show in themselves, in fact it is doubtful if one ever sees a finer display, the large prizes attracting exhibitors from all parts. The quality and taste displayed fully guarantees the policy of the executive. For six bouquets, and a similar number of baskets of cut flowers (Orchids excluded), with plants, Ferns, and cut foliage for decoration, with prizes first a silver cup value £5, and £15 in cash; second prize £12 10s., and a third of £10, everyone expected to see something out of the ordinary, nor were they disappointed, for the competition was keen and the exhibits excellent.

There were three competitors, but Messrs. Jones & Sons, Shrewsbury, were placed a good first. The bouquets were chiefly made of Roses, Carnations, and Sweet Peas. The baskets were also good, the execution and design being capital, forming a very fine exhibit. Messrs. Gunn & Sons, Olton, Birmingham, were a good second, using flowers that are not always seen in the florists' shops; while Messrs. Jenkinson & Son, Newcastle, were third.

For a ball bouquet and a bridal bouquet there were three entries, and a grand show they made, too, Messrs. Perkins & Sons, Coventry, winning well. Both bouquets were largely composed of Orchids. Messrs. Jenkinson & Son followed with larger bunches, also composed of Orchids, while Mr. W. Iggulden, Frome, was third with a heavier design. In the class for a ball or bridal bouquet, Orchids excluded, five competitors staged. Mr. W. Hayward, Kingston-on-Thames, was placed first for two handsome bouquets, closely followed by Messrs. Perkins and Sons, while Messrs. Pope & Sons, King's Norton, were a good third.

Dahlias do not suggest themselves as appropriate flowers for making a shower bouquet, but the beautiful shades of the Cactus varieties on this occasion were simply charming. Mr. W. Treseder was placed first for a large arrangement of Harmony, while Messrs. Pope & Sons were second with a fine arrangement of Arachne, and Mr. Watkin Jones third with the same variety. For a shower bouquet of Roses, with their own foliage, Mr. W. Treseder repeated his success with a bunch of red and yellow varieties, Messrs. Pope & Sons were second with one of heavier build, and Messrs. Perkins & Sons must have been a desperately close third.

The feather-weight bouquets of any flowers produced a capital collection, many of them of high quality and finish. There were four beautiful specimens staged, Mr. W. Treseder winning first honours with a pretty combination. Messrs. Jenkinson followed, and Messrs. Perkins & Son brought up the rear. Baskets of cut flowers, from which Orchids were barred, contained some fine examples of the florists' art. Here Messrs. Perkins & Son came out first for a choice

display, while Messrs. Jones & Sons followed, and Mr. W. Treseder was third.

The prizes for cut flowers for table decoration brought out a fine competition, and Messrs. Jenkinson & Son did well to secure the first place. Messrs. Jones & Sons followed with an arrangement that could not be described as elegant, while Messrs. Pope & Sons were third. The class for six buttonholes and six sprays was not well patronised by competitors. Messrs. Jenkinson & Son were first with an exhibit made entirely of Orchids, chiefly *Odontoglossums* and *Oncidiums*, while Mr. W. L. Chew was second with much smaller examples.

For twelve bunches of cut flowers, stove and greenhouse (Orchids excluded), there were four competitors, this making a fine class. The first prize was carried off by Mr. J. V. Macdonald, who staged well the following subjects:—*Ixoras Duffi* and *Dixiana*, *Dipladenia Brearleyana*, *Bilbergia Lindenii*, *Allamanda Hendersonii*, *Stephanotis floribunda* and *Java Rhododendrons Princess Royal*, Lord Wolseley, Favourite and *Princess Frederica*, while Mr. A. H. Hall ran well for second place, and Mr. H. Huxter came third. The class for six bunches under similar conditions brought out two exhibitors, the first prize falling to Mr. B. Cromwell, who had *Lapageria rosea superba* and *alba*, *Lilium Melpomene*, and *Gloriosa superba*, Mr. G. Davis coming second.

A nurserymen's class for a collection of Gladioli, with Ferns, plants, and foliage allowed, makes a better exhibit than just the bare spikes, and the exhibitors took full advantage of it. Here Messrs. Harkness and Sons came out strongly and easily carried off first honours; Mr. R. Morrow was a creditable second, and Messrs. Gibson & Co. were third. For a collection of Roses, nurserymen only, to be exhibited with their own foliage, with prizes of £5, £4, and £3, there were five entries. Messrs. Harkness & Sons, Bedale, won well with a capital arrangement, the blooms all being fresh and bright. Messrs. Perkins & Sons, Coventry, made a good second, and Messrs. D. & W. Croll, Dundee, were third.

The class for a collection of Dahlias any varieties, with their own foliage, open to nurserymen only, brought out some handsome displays, with the prizes similar to those in the last class. Messrs. Keynes, Williams & Co., Salisbury, were well to the fore, their pyramids being quite an attraction, while the blooms, staged in the orthodox boxes, would satisfy any Dahlia fancier. Messrs. M. Campbell & Sons were second with a somewhat flat arrangement, but the blooms were capital; and Messrs. Kerr Bros., Dumfries, came third. Next came a class for a collection of Cactus and decorative varieties; this had an entry of three, and the first prize was allotted to Messrs. Keynes, Williams and Co. for a nicely arranged collection of Cactus varieties. The flowers were raised in pyramids, and looked most effective. Messrs. Jones and Sons must have made a sharp run for second place; while Messrs. Pope and Son were third, also exhibiting strongly.

The nurserymen's class for a collection of hardy flowers staged in a space 15 feet by 5 feet, with plants, Ferns, and foliage allowed, was patronised by three exhibitors, and first prize was awarded to Messrs. Harkness & Sons, Bedale, for a good, fresh collection, large bunches of each subject being staged. Messrs. Gibson & Co., Bedale, were a capital second, adopting the same lines as the first prize winner, while Messrs. Kerr Bros., Dumfries, were a fair third. The collections of Carnations were exhibited naturally, without ties, collars, or bands, but the competition evoked was not of a strong character. Messrs. M. Campbell & Sons were first with a good representative collection, and Mr. G. Legge, gardener to Lady Alice Dundas, York, came in a poor second.

The competition for twenty-four Roses, in not less than eighteen varieties, was certainly a good one, there being four entries. Messrs. Harkness & Sons, Bedale, were a capital first, staging a good even box. Some of the best varieties were Earl of Dufferin, Etienne Levet, Caroline Testout, and Exposition de Brie. Messrs. Perkins & Sons, Coventry, were second, their best flowers being Mrs. John Laing, Maman Cochet, Comte Raimbaud, and Danmark; and Messrs. D. & W. Croll, Dundee, were third with weather stained flowers.

The county exhibitors now had a turn in a class for twenty-four blooms. There were three competitors. Mr. G. J. Squibbs, gardener to the Dowager Lady Williams-Wynn, Oswestry, was placed first; Mr. H. Huxter, gardener to J. B. Wood, Esq., Ludlow, followed; and Mr. G. Risebrow, gardener to Col. Kenyon Slaney, M.P., came in third. In a smaller class for twelve trusses there were four entries, and the Rev. J. T. B. Wollaston, Shrewsbury, won well; while Mr. T. Stevenson was a good second, and Mr. G. Davies, gardener to the Rev. F. Alderson, Oswestry, made a fair third.

Show and Fancy Dahlias were represented by a class for twenty-four blooms, not less than eighteen distinct. There was a grand competition, no less than six exhibits being staged. Mr. S. Mortimer, Farnham, won first position with a very even exhibit. The best varieties were John Hickling, Professor Fawcett, Arthur Rawlings, Majestic, and William Powell; Mr. W. Treseder, Cardiff, came second with rather coarser flowers, and Messrs. H. Clark & Son, Rodney, near Leeds, was a good third.

For twelve blooms (nurserymen barred) there were only two entries. Mr. Jas. Davies, gardener to W. E. King, Esq., Leominster, was first with good flowers of Rev. J. B. M. Camm, Mrs. Ocock, and Jas. Crocker; the second position fell to Mr. J. Langley, gardener to the Rev. T. M. Bulkeley Owen, Oswestry, for a somewhat uneven exhibit.

Fruit in Monmouthshire and South Wales.

SOUTH WALES, including Monmouthshire, is bound on the north by Montgomeryshire, on the west by St. George's Channel, on the south by the Bristol Channel, whilst its eastern boundary follows to a large extent the course of the river Wye, the adjacent English counties being Gloucestershire and Herefordshire. It is divided into seven counties, with a total acreage of 3,058,632. The principal seaport towns are Cardiff, Newport, and Swansea, from which a very large quantity of coal and iron is annually exported. In the counties of Monmouthshire and Glamorganshire we have what is known as the Great South Wales Coalfield: this is fringed by a belt of limestone rock, and much of the land occupied by this formation is characterised by bare rocks or crags, but the soil that is formed by the decomposition of the rock is well known to support good pasturage for sheep. The Coal Measures, which occupy so large an area in South Wales, form an elevated tract intersected by deep valleys, and from an agricultural point of view the soil in these mountainous districts is poor. Red sandstone and marls with layers of magnesian limestone are to be found to a very large extent in Monmouthshire and Glamorganshire, whilst over the greater part of the Vale of Glamorgan the lias limestone extends, as it does also on the banks of the Ebbw and at Liswerry, near Newport. Much of the soil in these districts is of a strong loam, and very heavy crops of corn have been grown upon it. Between Cardiff on the west and Chepstow on the east, bordering on the Bristol Channel, and along the rivers Usk and Wye, there are very extensive alluvial flats, or what is known locally as the Moors, which furnish very rich tracts of pasture land.

The climate of South Wales differs materially from that of many parts of England, and varies in itself considerably. In the mountainous districts it is bleak; moderately mild in the vales and on the southern coast, particularly in the far-famed Vale of Glamorgan. The average rainfall is considerably higher than in England, the wet season not being confined to the winter months, for rains are frequent at all times of the year.

The total area of orchards in Great Britain, according to the returns issued by the Board of Agriculture for the present year, is 228,603 acres, out of which only 6515 are situated in Monmouthshire and South Wales, but this does not include "small fruits." Of this acreage 4035 are to be found in the county of Monmouth; the remaining 2480 acres are distributed as follows:—Breconshire 1191, Radnorshire 689, Glamorganshire 321, Carmarthenshire 158, Pembrokeshire 78, and Cardiganshire 43. There is an increase on the year of 29 acres, 26 of which are put to the credit of Monmouthshire. To those who are more intimately acquainted with the larger fruit-growing districts of Great Britain, such as Kent, Herefordshire, Worcestershire, and the western counties of England, it may appear somewhat presumptuous on my part to describe fruit-growing as an industry in South Wales, especially when you remember that until very recently little or nothing has been heard of fruit from this (shall I say remote?) part of Great Britain.

Nearly the whole of the fruit in Monmouthshire and other South Wales counties is grown in what are commonly known as grass orchards. These are in most cases situated in sheltered spots near to the homestead to which they belong. There is no record of the time when fruit-growing as an industry commenced, but from the general appearance of many of the orchards it certainly dates back to 100 years ago, and in some cases to at least 200 years. This refers more especially to the Monmouth, Abergavenny, Chepstow, and Usk districts. On the moors or alluvial flats fruit trees are much shorter lived, and consequently orchards have to be frequently renovated. This is caused by the damp nature of the soil; ditches, or what are more commonly known as "reens," take the place of hedges. During the greater part of the year these reens contain water, and in the winter months the surface of the ground will not be more than 2 or 3 feet above its level; indeed, it frequently happens that during the spring tides many hundreds of acres are under water.

A great number of the farms in this district have orchards attached, and in many cases they are several acres in extent. In preparing the land the usual custom is to divide the ground intended to be planted into ridges; this is done by cutting a grip on each side of the ridge, throwing the soil taken out of the grip into the centre, and raising it almost into the form of a miniature arch or half-moon; the trees are generally planted on the surface, soil being carted from banks that have been accumulating for many years by the sides of public roads, or for what has been cast out of the reens or ditches, to cover the roots. After properly staking, a good dressing of stable or cow manure is placed on the surface round the tree, and this repeated the following year, with the result of forcing the trees into vigorous growth and also encouraging the fibrous roots to come to the surface.

It is often necessary to lay drain pipes or cut cross-grips to more efficiently drain the land. Shelter has to be provided, and this is done by planting the common Willow, and in some cases the English Elm, both of which grow very fast and soon form a belt sufficient to break the strong westerly gales, which in certain seasons of the year are very prevalent.

Some people will probably ask, Is it possible to grow Apples under such conditions? My answer is that frequently very heavy crops are grown, equal in quality and size to any that I have seen in other parts of Great Britain. One of the varieties that are grown in quantity in most of the orchards in the district between Newport and Chepstow is King of the Pippins, or what is known locally as Shropshire Pippin.

It is well known from history that some 2000 years ago the Romans occupied this part of the country, one of their chief fortified cities being Caerwent, situated on the main road from Newport to Chepstow, and about twelve miles from the former town. Now within the walls of this small but ancient city there are about 15 acres of orchard out of a total of 45 acres, or one-third of the whole city. The trees are perfectly healthy, and although many of them are of great age they are still regularly bearing heavy crops of fruit; the reason given for this by the present tenant was that they were feeding upon the bones of the Romans. And in one sense this is certainly true. For in many places amongst the fruit trees are to be seen the ruins of the houses in which the Romans lived. Extensive excavations have lately been made within a few yards of the orchards, and almost beneath the shadow of the trees the foundations of two large Roman villas have been unearthed. Much of the fruit is used for making cider, but a large quantity is sent to the local markets, the better varieties including Coxes, Blenheims, Kings, and Ribstons.

About two miles from Caerwent we come to Portskewett, near to which is another ancient encampment, and here again is a very old orchard, about 9 acres in extent, which is partly enclosed by a high wall. Many of the trees are very large, and, when I saw them, were almost breaking down with their heavy crop of well-coloured fruit. The soil here is good, although not of great depth, the limestone in some places projecting above the surface. Near by is to be seen one of the relics of the olden times—a pair of stocks in perfect condition standing on the roadside close to the entrance to the parish church.

Leaving Portskewett we come to Caldicot, and here I found a good illustration of what can be done by honest industry. Some few years ago, the fruit gardens were in a very rough condition, and the present owner who had never had any special training for fruit-growing, purchased a quantity of Apple, Pear, and Plum trees, which were planted at sufficient distances apart to allow the ground between to be filled with "small fruits;" and in addition a plot has been set apart for growing Tomatoes in the open air, and last season the results were so satisfactory that he intends to extend his fruit gardens.

In the Raglan and Monmouth district I spent several days this autumn, travelling over 100 miles in different directions. The first place I visited was Cwmcarnan (the meaning of the word *cwm* is a "dingle"); the whole of this place is well sheltered from the easterly and westerly winds, the soil is of a stiff clay on the red sandstone. Many years ago there appear to have been extensive orchards in this place, and some attempts have been made to renovate them, but unfortunately the young trees that have been planted to fill up the vacancies have not had sufficient protection to prevent the cattle from rubbing against them and in many cases breaking them down; yet, notwithstanding this rough treatment, there were splendid crops of well coloured fruit. The Blenheims were the best I have seen this season, whilst on the old Cissy tree the fruit (fig. 47) was perfectly crimson in colour. I saw here for the first time an Apple called The Ten Commandments; there were several trees of it. Hitherto I had only read of it in Dr. Hogg's "Fruit Manual." Large quantities of cyder fruit are also grown here, many of the trees breaking down with the weight of fruit. One of the varieties which appeared to be a great favourite through the whole of the Monmouth district was called Potheer, and I was told that it was raised at a mill of that name some short distance from Monmouth. It is considered to be an improvement on what is known there as the Belle Norman. The trees are of straggling habit, but they bear enormous crops of fruit every year, which frequently break the trees to pieces. Pear trees appear to do well here; the trunk of one I measured was 6 feet in circumference 4 feet from the ground, and of Catillac I found some very large specimen trees.

I have already referred to a local variety of Apple known as the Cissy, and in a few places as the Tampling. It may be interesting to record that it was raised by a cottager named Tampling, who resided in the village of Malpas, near Newport, about a hundred years ago. During his lifetime he distributed grafts amongst his friends in different

parts of the county, and after his death a sister named Cissy occupied the cottage, and the work of distribution continued until her death, and thus it obtained the name of Cissy's Apple, by which it is known to this day. Some few years ago specimens of this Apple were exhibited at some of the large fruit shows, when it was given the name of Monmouthshire Beauty, a name to which our people have not taken kindly. I am indebted for this information to Thomas Eboral Cooke, Esq., of Newport, whose father knew Mr. Tampling personally.—(Paper read by Mr. JOHN BASHAM, before the Royal Horticultural Society.)

(To be concluded.)

Coniferæ.

WHEN I first thought of writing a few notes on Coniferæ it was my intention to give a list of the different members of the family with which I was familiar, and a short description of each with a few cultural remarks. Before doing so, however, perhaps it may be interesting to some readers to give a few particulars of this ornamental and valuable class of plants. In the first place it may be as well to mention that the word Coniferæ, or cone-bearing, is the name given to a natural order of plants, consisting of trees and shrubs; Pinaceæ has been used by some authors as the more suitable name, but I believe the former is considered more up-to-date. In Dr. Lindley's "Vegetable Kingdom" the order is named Pinaceæ; in Henfrey's "Elementary Course of Botany," page 379, we find Pinaceæ, or Coniferæ; but Bentham and Hooker, in their "British Flora," give the name Coniferæ, the Pine family.

In a general way the natural orders of plants take their names from some prominent genus contained in the order. To give an example or two. The order Ranunculaceæ from the Ranunculus or Buttercup, Violaceæ from the Viola or Pansy, and Primulaceæ from Primula or Primrose. Had this rule been followed doubtless Pinaceæ would have been universally used, for Pinus is the most important genus the order contains. I suppose it is not a very important consideration which name is used, but I have sometimes thought that Pinaceæ would be the more suitable. The following paragraph bearing on this subject is taken from Veitch's "Manual of Coniferæ"—"The fruit of the Fir and Pine tribe, which slightly resemble a cone, doubtless suggested the name Coniferæ as a suitable designation for the order, but the name has not been universally accepted. Following the rule observed in designating other natural orders, the selecting of one of the contained genera as a type to which the others may be referred, the name Pinaceæ has been used by some authors in preference to Coniferæ. It may be observed, however, if the name Coniferæ, as applied to the order on a count of the form of the fruit borne by some of the most important species belonging to it, is open to some objection, the mode of growth of by far the greater number of species, especially in their young state, is strictly that of a cone in outline."

The Conifers form an extensive order spread over the whole globe where arborescent vegetation exists, although within the tropics chiefly confined to mountainous districts. In the northern hemisphere Conifers often form vast forests, and include the loftiest trees known. Three species only are indigenous to Britain—Pinus sylvestris (the Scottish Fir), Juniperus communis (the common Juniper), and Taxus baccata (the Yew). But a large number of exotic ones are generally planted, and some to such an extent as now to cover large tracts of country. As ornamental trees they were planted too freely for some time after they were first introduced, with the result that some places were rather overdone with them. Conifers differ in many respects from our own indigenous trees, both in their roots, stems, and branches, as well as in their inflorescence and seed. There is also another very interesting and important distinction—that is, in the structure of the wood; but as this is of a microscopical nature, perhaps even had I the ability to enlarge on the subject it would hardly be

suitable for a practical garden paper, and is more the work of the botanist.

Those who have had any experience of the transplanting of young forest trees will know quite well that there is a great difference between the roots of an Oak or Sycamore for instance, and those of a Scots Fir or Larch. The former make a thick root, which goes straight down in the soil, and is known as a tap root—in fact, they seem almost all roots during the first two or three years of their existence. But with the Scots Fir and Larch comparatively few roots are made, and those of a very different character. They do not descend straight down in the soil, but spread horizontally near the surface, and are thin and tough. The roots of some Conifers do not extend very rapidly in a young state, but increase in thickness, and make more fibrous roots, consequently these are amongst the easiest of trees to transplant, and the operation may be performed with little risk. Trees of this description will be found in the Cypress tribe and the Retinosporas.

On the other hand, some members of the Pine family make long straggling roots. We have good examples of this kind in the Austrian and Corsican Pines, these making a few straggling roots, which render them difficult to transplant with safety, unless they have been well prepared.

They should be frequently transplanted in their young state to induce them to make fibrous roots nearer the stems. Two years is the longest time they should remain in the same position until they are planted in permanent situations. It is the safest plan to plant them out in as young a state as practical. In the roots of Taxodium distichum, the deciduous Cypress, a striking peculiarity is seen when this tree attains its maturity and is growing in swampy places, as it most commonly does in its native forests in North America, or in close proximity to water in England—they form hollow conical or bee-hive shaped protuberances, that rise several inches above the surface of the ground, and which have never been noticed to produce buds from which shoots proceed. These protuberances are popularly called "knees."

The vitality of the roots of coniferous plants is remarkable, especially in the Fir and Pine tribe. Although no member of this family will send out new shoots from the roots of trees that have been felled, many instances have been observed of which the roots themselves not only live, but continue to grow for many years. The roots of the Silver Fir have been

known after the removal of the tree to produce annual circles of ligneous matter, increasing the diameter of the stump and forming yearly deposits, which have sometimes continued for many years. Of the instances of this curious formation, the most remarkable is that recorded by Mr. Dutrochet, of a stump of Silver Fir, felled in the Jura forests in 1743, which was still full of life when examined at the end of the year 1836. This formation consisted of ninety-two layers of woody matter, formed during that number of years by the roots, deprived of their trunk and leaves, and the wood which composed the stump at the time the tree was felled had in 1836 entirely disappeared.

Again, we find a great difference in the stems of trunks of Coniferous trees to those of our native trees. With few exceptions the stems of the former are cylindrical and tapering, growing perfectly erect, and attaining dimensions varying from a few inches to upwards of 300 feet in height, and with diameters generally small in proportion to the height; but in this respect the Yew and Cedar of Lebanon are well-known exceptions. The trunks of the larger Coniferous trees increase in height and diameter very rapidly after the first years of their "infancy" when the plant has become established. The Wellingtonia is said to grow in this country at the rate of from 24 to 30 inches in one year, and Thuia gigantea and Cupressus macrocarpa have been known to make an addition of nearly 4 feet to their height in one season. I have measured the annual growth of young Larch trees, and have found many have reached 4 feet in length, the soil they were growing in being a light loam. The Douglas Spruce (Abies Douglasi) grows very rapidly, especially in a soil that is naturally moist, and I have known them to thrive well in very wet situations; but they were only young trees.—PINUS.

(To be continued.)

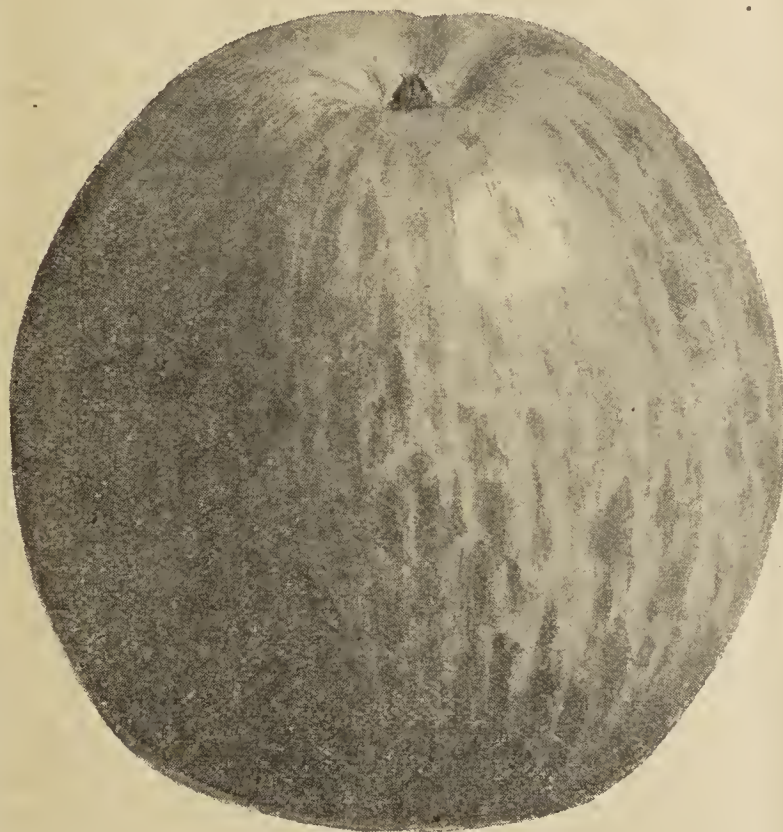


FIG. 47.—APPLE CISSY.

NOTES & NOTICES

Recent Weather in London.—On Monday the atmosphere was close and oppressive, but was relieved by the rain which fell at night. Tuesday was a day of intermittent sunshine, with rain at night, and Wednesday opened cool, with occasional gleams of sunshine and a tendency to further showers.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, August 28th, in the Drill Hall, James Street, Westminster, 1 to 5 p.m. At 3 o'clock a paper on "Montbretias and Crocosmias" by Mons. Emile Lemoine will be read.

Eastbourne Flower Show.—The Eastbourne Flower Show was held recently in perfect weather in the grounds of Compton Place, by permission of the Duke of Devonshire. As usual, a most interesting display was brought together, and much of the produce was of exceptionally high quality. The band of the Coldstreams played on the lawn in front of the house.

The Late Mr. W. H. Maxwell of Munches, N.B.—The death of Mr. Wellwood H. Maxwell of Munches, Dalbeattie, has not only removed from Kirkcudbrightshire and the south of Scotland in general one of their best known public men, but has deprived local horticulture and forestry of one of their most ardent supporters. Although he had attained the great age of eighty-three, Mr. Maxwell retained to the last his interest in his trees, shrubs, and flowers. The writer has a lively recollection of a day spent in the gardens and grounds of Munches, and of the delight with which the venerable owner pointed out anything he thought particularly good in the way of flower, shrub, or tree. He was remarkably catholic in his tastes in plants, and apparently enjoyed equally the beauty of his Conifers, his outdoor flowers, and the many rare plants grown under glass. Although in public affairs he dwelt largely on the past, Mr. Maxwell was never behind in horticultural matters, and one could see a large number of each year's introductions in his garden. His beautiful estate of Munches was a source of much enjoyment to him, and no doubt his love for his plants did much to induce him to give up his parliamentary career as member for his native shire, and to live mainly among his trees and flowers.—S. ARNOTT.

Capel Horticultural Society.—Under the most delightful of weather auspices the annual exhibition of the society which covers the extensive district of Capel, Newdigate, Holmwood, and Ockley, in the south-eastern part of Surrey, took place at Capel, on August 15th. The district is a charming one, and is overlooked at no great distance by the lofty hills of Leith, that giant range which here dominates so much of beautiful Surrey. A fine feature of the show is found in the numerous and attractive groups of plants set up in the centre of the large tent by the gentlemen's gardeners of the district, and which seem so blended that little of distinction prevails. Mr. W. Rogers, gardener to W. A. Colvert, Esq., C.C., Bromells, had a fine collection of Caladiums, Liliun auratum, Gloxinias, and other flowers set in a profusion of good foliage plants. Mr. H. Stephens sent from the Lyne Gardens fine Hydrangeas, Galtonias, pyramidal Campanulas, Lilies, &c., in foliage plants. Mr. Holder, gardener to Col. A. H. Calvert, Ockley Court, had excellent Chimney Campanulas, Lilies, Caladiums, Crotons, and other plants. Mr. W. Lacey, gardener to C. Mortimore, Esq., Wigmore, had Pelargoniums, Fuchsias, and other flowering plants, with fine Palms, Dracænas, and other foliage. Mr. Shepherd, The Gardens, Greenhurst, had Lancifolium Lilies in abundance, Achimenes, Caladiums, Crotons, &c., backed by huge Palms. Mr. King, gardener to A. F. Perkins, Esq., Oakdene, Holmwood, had Acalypha hispida, Begonias, Lilies, Anthuriums, Hydrangeas, with ample foliage plants. Mr. Wilkins, gardener to J. H. T. Broadwood, Esq., Plaistow, had Coleuses, Pelargoniums, Fuchsias, and other good things. Mr. N. Graves, gardener to A. Hargreaves Brown, Esq., Broom Hall, showed superb Mr. Gladstone and Princess of Wales Peaches; Mr. W. Stephens good Hamburgh and Lady Downe's Grapes; and Messrs. Cheal & Sons, Crawley, sent Dahlias, Gladioli, and various hardy flowers. The cottagers' exhibits were numerous and really first-rate.

New Parks for Leeds.—Leeds is to have two new parks. The City Property Committee recently agreed to select the Harehills Park Estate for £35,000 in the Chapeltown district, the area being 32 acres, and also a site in Harehills Lane for £14,000, subject to the approval of the city council. With the opening of new parks the corporation is gradually abolishing the slums of Leeds.

New Park for Eastbourne.—At a special meeting of the Eastbourne Town Council on Tuesday it was resolved to apply to the Local Government Board for sanction to borrow £15,500 for the purchase of 82 acres at Willingdon for a public park for Eastbourne and for the construction of a low level road through the estates of the Duke of Devonshire and of Mr. C. Davies Gilbert to form a new circular drive.

The French Vintage.—There is promise of an abundant vintage in France this year, and the conditions under which the Grapes have approached maturity have been such as to lead to the hope that the quality will be satisfactory. It is estimated that the total yield of wine in the coming autumn will be something like 1,200,000,000 gallons, or about 100,000,000 gallons more than in the great year of 1893.

Chinese Feasts of Flowers.—The three chief feasts during which Chin Chin takes legal holiday are those of the Dragon, the Moon, and the Year. Five days attend the first two and thirty days the last. Those who have lived in China for any time invariably award the palm for attractiveness to the Feast of Flowers, which occurs in the spring. Then the trees are in bloom, and every private garden in the land is a flower show of the first order. In thousands of thrifty homes the people make their favourite rice wine, marching out in procession to the accompaniment of music to the rice fields. When the Thang dynasty ruled in the land—a dynasty whose Emperor delighted in simple pleasures amidst natural surroundings—this fête was a most brilliant affair.

One Tree Hill.—It is said that there is to be another effort made to get One Tree Hill made public property. After the riots of three years back it will be remembered that the Law Courts declared the ground to belong to the joint-owners. A gentleman unconnected with the previous movement is said to have alighted upon new and important evidence which, he declares, will put quite a different complexion on the matter, and he proposes to lay the evidence before the Camberwell Vestry and the Lewisham Board of Works. The nature of this evidence has not transpired. The present renters of the ground are the Honor Oak and Forest Hill Golf Club. A member of the golf club committee states that the club had the option of a twenty-one years' lease of the rental, which they had now held for some six years. He confessed to have heard nothing of any definite or organised attempt to regain the land, though he knew that for some considerable time now certain enterprising townfolk of Camberwell had been agitating for its acquirement by the municipal body. The present owners are quite undisturbed at the rumours floating about, remembering that the Court gave them a "perpetual injunction" restraining interference of any kind.

College of Agriculture, Downton, Salisbury.—The summer session of this college ended on Friday, 10th August, when the following awards were made:—The diploma or certificate of membership of the college, after two years' residence and passing in all the subjects taught, to O. F. Cooke-Yarborough, Campsmead, Doncaster. Certificate of practical proficiency in agriculture, K. B. Foyster, All Saints' Rectory, Hastings. The college scholarship of £15 to O. F. Cooke-Yarborough. The Bless scholarship to A. R. Margesson, Finden Place, Worthing. Prizes were also given in the various subjects as follows:—K. B. Foyster, Agriculture, Chemistry, Veterinary Science, Botany, Knowledge of Live Stock; Harold F. Crick, Priest Gate, Peterborough, Building Construction; A. R. F. Margesson, Agriculture, Practical Chemistry, Surveying and Levelling, Building Construction, Botany, best Collection of Weeds; G. C. Way, Canham Lodge, Upminster, Essex, Agriculture, Practical Chemistry, Botany, and Milking; J. C. Thompson, Knighton House, Leicester, Agriculture, Veterinary Science, Chemistry; M. R. Heath, 29, Warrior Square, St. Leonard's-on-Sea, Chemistry and Veterinary Science; F. B. Toms, Crosswood House, Molesey, Practical Chemistry; O. F. Cooke-Yarborough, Surveying and Levelling; C. Robins, Garswood, Newton-le-Willows, Surveying and Levelling, Building Construction; A. Wrightson, College of Agriculture, Downton, Wagon Driving; J. E. Whitnal, The Grange, Wilmslow, Cheshire, best Collection of Grasses.

The Robert Fenn Testimonial.—Some weeks ago horticulturists were expressing general regret at the news of Mr. Robert Fenn of Reading having met with a serious accident, entirely incapacitating him from work, at the age of eighty-six. "The Gardeners' Chronicle" and Mr. Alexander Dean of 62, Richmond Road, Kingston, Surrey, kindly consented to act as the channels for donations from the admirers of their old friend and teacher, "Upwards and Onwards," whose horticultural work dates from before the accession of the Queen, and whose horticultural fame is older than the Crimean War. So far the subscriptions reach a total of £37. The donors, through "The Gardeners' Chronicle," include Mr. G. F. Wilson, F.R.S.; Dr. Masters, Mr. T. Turton, Mr. C. Ross, and Mr. Arthur Sutton of Messrs. Sutton and Sons; while those through Mr. Dean, representing the *Journal of Horticulture*, include Messrs. R. M. Hogg, John Wright, V.M.H.; H. M. Pollett, A. Pettigrew, T. Peed, N. H. Pownall, A. F. Barron, V.M.H.; Alexander Dean, Mrs. Falcon Stewart, and the Rev. H. H. D'Ombra. Those who appreciate Mr. Fenn's lifelong devotion to the spade and the pen in his efforts to advance the sweet and civilising art of gardening are reminded that the lists are not yet closed to sympathetic contributors.

In the Market.—The glut of fruit at Covent Garden is really phenomenal. These are some of the prices obtained recently. They speak for themselves. English Rivers Plums were sold for 1s. a half-sieve of 24 lbs. of fruit, in some cases even less. Spanish Denia white Grapes were sold at 3s. to 4s. 6d. a barrel, containing 24 lbs. of fruit; and black Grapes 5s. 6d. to 7s. Cases of twenty-four yellow Valencia Melons brought but 4s. 6d. to 5s. The first arrivals of Lisbon Grapes sold for only 8s. 6d. to 10s. a half-box of 48 lbs. net, while cases of Tomatoes from the same source, weighing 36 to 40 lbs. net, brought 10s. to 11s., showing the altogether unwonted spectacle of excellent Grapes selling at a lower rate than Tomatoes. For 24 lbs. of French Green Gages only 4s. to 4s. 9d. could be obtained; and the same quantity of Orleans Plums brought 2s. 6d. to 3s. French William Pears commanded no more than 2s. 6d. to 3s. for boxes of forty-eight exceptionally fine samples, and a somewhat inferior grade, running fifty-six to the box, went off slowly at 2s. to 2s. 3d. Californian Pears, Peaches, and Plums shared the general fate in respect of prices. It should be observed, however, in calculating retail prices from those given here, that the absolute loss of the retailer in soft fruit from one cause or another ranges from 50 to 100 per cent. of his entire purchase.

Cardiff Gardeners' Association at Gunnersbury.—August 13th, 1900, will long be remembered by the members of the Cardiff Gardeners' Association, for a delightful and instructive day's excursion made to the Royal Gardens, Kew, and also to Gunnersbury House and Gunnersbury Park, the residences of Mr. Leopold de Rothschild. The party reached Kew at 12.30, where they were regaled with a splendid luncheon at the Rose and Crown, the chair being taken by Councillor Gerhold, vice-president. After the toast of "The Queen and the Royal Family" had been given, Mr. Hybart proposed "Success to the Cardiff Gardeners' Association." Mr. Farmer proposed "The Visitors," and Mr. Malpas proposed "The Chairman," to which Mr. Gerhold made a humorous reply. Mr. Graham then proposed "The Hon. Secretary," whereupon Mr. J. Julian in responding stated that the membership for twelve months had increased from 105 to 150. At two o'clock a move was made for the Royal Gardens, where a most interesting couple of hours were spent. At 4.30 the members reassembled at the Rose and Crown, and thence proceeded to Gunnersbury House and Park where, in the absence of Messrs. J. Hudson and J. Reynolds, who were away on their holidays, they were met by Mr. Camp on behalf of Mr. Hudson, and Mr. Quainton on behalf of Mr. Reynolds. On reaching the mansion (by the kind forethought of Mr. de Rothschild) tea was found to be prepared and was thoroughly enjoyed, after which Mr. Farmer moved a very hearty vote of thanks to their host. Messrs. Camp and Quainton then took charge of the party, and the latter part of the afternoon was spent in admiring the culture, the Grapes, the Figs, the Melons, the Pine Apples, and the specimens of *Dicksonia antarctica* in the Old Palm house by the lake. The pleasure ground, too, with its beautiful lakes filled with many varieties of Water Lilies, surrounded with Bamboos, &c., its gigantic Cedars and tastefully arranged flower beds, fairly captivated the minds of the excursionists. The few remaining hours until midnight were spent at various places of amusement in London, the party reaching Cardiff at 6 A.M. on Tuesday morning, all enthusiastically satisfied with the outing.

Derbyshire Agricultural and Horticultural Show.—The thirty-ninth annual exhibition of this society will be held at Derby upon the 12th and 13th of September next. Entries close upon September 5th. Special prizes for vegetables are offered by Messrs. Sutton & Sons and Messrs. Webb & Sons, and the prizes in the open classes for both plants and fruits should attract many competitors. The long record of successes already achieved at this meeting is a guarantee that the coming one will not fall short of its predecessors.

Seed Warranty Case.—A case of interest to farmers and brewers was heard on Friday at Wareham County Court, Harry Budden, a farmer, suing Robert Cann, corn merchant, for £25 on a breach of warranty of seed Barley. Plaintiff ordered a quantity of Hallett's Pedigree Barley. The yield turned out small, only 198 sacks being obtained for 3 acres; and when it was offered for sale to buyers for Burton breweries it was discovered to be a type of Goldthorpe Barley, which expert evidence showed was 5s. different in value. The defence was that the seed when sold was believed to be Hallett's, having been obtained from a firm in Smethwick. It was not disputed that a mistake had been made. The judge said the evidence showed that £75 had been lost, and the defendant as an honest man owned to the mistake. He gave judgment for the amount claimed, which he considered was a moderate claim.

Severe Thunderstorm.—A thunderstorm of considerable severity visited several districts of the Metropolis and the home counties on Friday afternoon. The storm was curiously local in its character. Thus while visitors to Kennington Oval experienced but a slight fall of rain, a perfect deluge descended in West Brixton, Peckham, Denmark Hill, and localities little more than a mile away, while the lightning flashes were very vivid, and the thunder crashes loud and almost continuous. The storm clouds passed from east to south, and about five o'clock large hailstones fell on Peckham Rye, while the lightning was incessant. The surplus water flooded several streets both there and at Brixton. In the Ilford district the flooding was considerable. Happily no one was injured, and little damage was done.

The Wet Weather.—It is earnestly to be hoped that no part of the kingdom will have a wet harvest time. The country now has burdens enough to endure, but a wet harvest would be indeed a national misfortune, for it would doubtless destroy millions of pounds worth of bread stuffs, besides doing harm in very many ways. In spite of the complaints made in June as to the irregular growths of early Potatoes there is so far every prospect of there being a heavy crop of tubers. But the recent heavy rains have created great anxiety on the Potato's account, for sprouting from the young tubers is proceeding apace, and there is danger that very great injury to the crop will result in consequence. We have just at the present moment the very greatest need for warmth and dryness. The soil is insufficiently saturated, and presents a wonderful contrast in its condition to what was seen when only a few weeks since the intense and distressing heat which prevailed had seemed to scorch almost everything that was shallow-rooted. Crops then suffered from burning drought, and have since equally suffered from excessive moisture, fierce winds, low temperature, and lack of sunshine.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900. August.										
Sunday.. 12	W.	deg. 66.7	deg. 58.2	deg. 77.6	deg. 51.8	ins. —	deg. 62.5	deg. 60.7	deg. 59.5	deg. 47.0
Monday.. 13	W.S.W.	69.3	62.9	82.2	51.0	—	64.3	61.5	59.5	46.2
Tuesday 14	W.N.W.	69.4	61.7	80.6	50.8	—	65.5	62.5	59.5	44.8
Wed'sday 15	E.S.E.	65.6	59.2	70.7	57.9	—	66.2	62.9	59.5	51.6
Thursday 16	E.N.E.	67.6	60.5	76.2	57.2	—	65.6	63.2	59.8	51.2
Friday .. 17	E.N.E.	62.3	60.3	79.2	60.0	—	65.9	63.2	59.9	55.4
Saturday 18	E.N.E.	71.9	66.9	83.2	57.3	—	66.5	63.5	60.0	52.2
MEANS ..		67.5	61.4	78.5	55.1	Total —	65.2	62.5	59.7	49.8

A week of warm bright weather entirely without rain.

Poisoned Vine Borders.

HEALTHY Vines growing in well drained borders, and having abundance of active roots, require large quantities of water and high feeding to enable them to perfect heavy crops. Conditions, however, often arise which make it necessary to exercise extreme caution in watering, and especially in giving liquid manure. Shankings, especially in the case of Muscats, is often caused by saturating the borders with liquid manure, at a time when the roots are not very active, and before the soil is dry enough to need water. During seasons when the weather is uniformly bright throughout the summer, it is not often that mistakes are made in watering Vine borders; but when we get wet, or very dull weather, for successive weeks, not a few cultivators in their anxiety to achieve distinction in Grape growing are led to overwater with disastrous results. It is a matter which needs thinking about, and a very little thought should show that in the absence of sunshine the supply of moisture drawn up by the roots of Vines to make good the loss by evaporation and transpiration is "infinitely little" when compared with the amount drawn up when powerful sunshine sets the machinery of plant life in motion.

The only safe rule to follow is to test the borders to ascertain the exact condition of the soil in regard to moisture. For this purpose the instrument invented by Mr. A. Kirk, Alloa, N.B., is of great service, and where used should prevent mistakes from being made. When Vine borders are kept clear of plants their management is comparatively simple, but unfortunately there are not many private establishments where this can be done, and in nurseries where plant and fruit culture is carried on, it does not do to depend upon the Grape crop alone to supply the needful profit from a vinery. Successional stocks of plants are usually arranged over the borders till the foliage gets too dense for their welfare, and this often causes the borders to get wetter than is desirable during the winter and early spring months.

To illustrate my meaning let me give the following example. I have a lean-to vinery in which the Grapes are cleared by the beginning of September, and during that month last year the border was packed with early-flowering Chrysanthemums; as soon as these were over out they went, the space being then devoted to late-flowering Chrysanthemums. When the blooms from these were cut the Vines were pruned, and the house received its annual cleaning. A few inches of soil was removed from the border and fresh compost substituted. All the available space was then filled with Callas, and as soon as the first crop of flowers had been gathered from them the border was covered with Spiræas in pots, which formed the last plant crop of the season in that vinery.

Considering that the whole of the plants arranged above the border were gross feeders, and received liberal applications of liquid manure, I think cultivators generally will agree with me that the Vines were not grown under quite ideal conditions, and the border might be correctly described as a "poisoned one." When the Spiræas were removed the soil was completely saturated, and I was surprised to note that the Vine shoots were growing freely, and showed every sign of health. I thought, however, that extra caution in watering would be needed to bring the crop through satisfactorily. A little lime was scattered upon the soil, and lightly pointed in with a fork. Shortly after this we experienced a long period of wet weather, and the soil in consequence dried very slowly, still the Vines made good progress; and although I tested the border several times, I found it wet enough quite down to the drainage. That Vine border has not been watered once this season, but the berries have swelled to a large size, and have coloured well. I feel convinced that if I had been tempted to water the border as in former years (it usually required watering three or four times) the result would not have been satisfactory. I did not, however, dispense with feeding altogether, but as soon as the earliest berries began to colour, chemical manure was scattered upon the border; this was moistened whenever the house was damped, and it soon brought white fleshy roots to the surface.

In the *Journal of Horticulture* I have frequently dwelt upon the necessity of giving Vines abundance of water and stimulating food, as it is sad to see Vine foliage infested with insects and Grapes with small badly coloured berries, solely because feeding at the right time is not practised; but in all these matters judgment is needed to prevent mistakes from being made in the opposite direction. The present season has been a peculiar one, and I doubt not that many Grape growers have found their borders have required less water than usual this year. In the instance above cited the circumstances were of course exceptional, but in two other vineries I have found that comparatively little water has been needed so far this season.—H. D.

Eserick Park.

THE seat of Lord Wenlock is situated in the Plain of York, seven miles from that ancient and historic city, with its venerable minster and other archæological features. In company with a gardener friend I visited this beautiful place on a glorious day in early June. The stately mansion is partly Elizabethan and partly Palladian. It stands in the midst of an extensive deer park, and at the time of my visit the Hawthorns—old isolated trees scattered about—were clothed with a garment of snowy white, and the scarlet-flowered Chestnuts imparted warmth of tone to the vernal surroundings.

The Vineries and Peach Houses.

The gardens under the charge of Mr. Stanton are in excellent keeping. A range of four vineries was erected last autumn by Messrs. Richardson & Son of Darlington; each division is 60 feet long by 25 feet in width. One is planted with Black Hamburgh and Madresfield Court Muscat, another with Muscat of Alexandria, and a third with Gros Colman, and the fourth with Frogmore Selected and Duke of York Tomatoes. Figs occupy the back walls, and all are thriving splendidly. In a somewhat similar range Black Hamburgs were colouring well; Black Hamburgs and Madresfield Court in association were just set, and Alnwick Seedling, which sets well at Eserick, and is found an excellent keeping Grape, has a division exclusively for it. A large number of Clivias have a permanent position on the back borders of the vineries, where they produce thousands of flowers in the early spring. In a Fig house 70 feet long there remained a remnant only of the first crop, but that was sufficient to show the excellence of the crop; Brown Turkey, White Marseilles, and other varieties were bearing splendid fruits. The second crop was a full one and advancing well. One 45 feet long division was filled with a tree of Lord Napier Nectarine, bearing a grand crop approaching the ripening. This variety, with Rivers' Orange and Violette Hâtive, and two Royal George Peach trees in another position, were past the stoning period, and were swelling satisfactorily. In a further set of three Peach houses the fruit was stoning.

The Greenhouses and Stoves.

Gladiolus The Bride was observed throwing strong spikes in one of the Peach houses. A span-roofed structure was full of about 300 Malmaison Carnations; the chief varieties in bloom were the old blush and pink. A useful stove was filled principally with Palms, Crotons, Dracænas, Pandanus, and similar plants for room decoration; a fine Stephanotis on the roof was full of flower. In an 80 feet divided range were respectively Cucumbers on one hand, and with Eucharis amazonica and Hymenocallis littoralis on the other, while the next was utilised for purposes of propagation. Collections of plants for winter flowering were observed; they included Begonia Gloire de Lorraine, Thysacanthus rutilans, Eranthemum pulchellum, Euphorbia jacquiniæ-flora, Reinwardtia tetragynum (fig. 49, page 183), and Bouvardias, with small Crotons and sporeling Ferns in variety. Another span-roofed range of three 50-foot divisions had a very sharply sloped roof, which permitted only two rows of Tomatoes on each side of the pathway. The favourite varieties were Veitch's Perfection, Duke of York, Hackwood Park, and Sutton's Earliest of All. The plants, robust and the picture of health, were carrying three or four clusters of large fruit each, which was commencing to colour. Tomatoes in 5-inch pots for planting against south walls took up the remaining space. In a narrow three-quarter span-roofed house 500 healthy hybrid Amaryllis were seen, and these prove invaluable every year. One thousand Royal Sovereign Strawberries are forced yearly. French Beans are grown in succession, and the latest plants of Fulmer's Forcing were in crop on the occasion of my visit. Melons are only grown as late crops, and usually succeed frame Potatoes. Streptosolen Jamesoni was represented by a score of plants in 5-inch pots, which looked really attractive with their orange-scarlet flowers.

The Vegetable Garden.

The kitchen gardens are about seven acres in extent. Peach trees on a south wall had set a full crop, but Apricots were somewhat sparse. Early Peas were in flower, and successional second sowings were progressing well; Strawberries were setting freely. A grand breadth of spring sown Onions caught the eye, in fact the entire kitchen garden was in excellent order and fully cropped. Mushrooms are grown on ridge beds to produce a continuous supply throughout the year. Asparagus luxuriates, and was particularly noticeable in the form of a large breadth

of Asparagus for forcing, one half being two-year-old seedlings, and the remainder one-year stock. The seeds are sown annually in rows 18 inches apart, and those now two years old will be lifted for forcing next winter and spring, which system I consider a very good one. Four hundred Chrysanthemums are grown, one half for large blooms, and the others in bush form. A tall screen 30 feet long in the kitchen garden was clothed with Crimson Rambler Rose and Lord Penzance Sweetbrier, both in luxuriant health. Ruby Castle Carnation is largely grown for cutting, as are Sweet Peas, and early flowering Chrysanthemums stand in hundreds in the borders. The favourite yellow is Aigle d'Or, while Salter's Blush, Madame Desgrange, and G. Wermig are largely cultivated. Eight hundred Victoria Violets were growing in the open air, whilst 1200 Marie Louise and Princess of Wales flowered in frames. Herbaceous plants occupy considerable space, and a fine hedge of Gloire de Dijon Roses in bloom was noticed.

glandulosa, Robinia hispida, Taxodium distichum, and many ancient Yews; also Taxus adpressa, Portugal Laurels, Laburnums, Scarlet Thorns, and Horse Chestnuts, with Lilacs grandiflora alba and grandiflora Charles X. Two clumps of Berberis dulcis and B. stenophylla were very effective. Japanese Crabs had just passed out of flower. The Golden Yew walk is a feature in the summer, and was just putting on its summer attire. The Rhododendron garden is approached by a flight of stone steps, flanked on each side by pillars of Golden Tree Ivy, and an arbour of American Arbor Vitæ. The Rhododendrons were aglow with rich colour. The beds are surrounded by a low hedge of silver Holly.

The Rose and Flower Gardens.

The Rose garden is an oblong enclosure, bounded on every quarter by a thick Yew hedge, which has five concave indentations on each side, and



FIG. 48.—ESCRICK PARK.

The Pleasure Grounds.

The pleasure grounds are extensive and beautiful, and their keeping reflects the highest credit to Mr. Stanton. There are 17 acres of lawns, which are mown with one of Green's two-horse machines, that has been in use for many years. The grounds are rich in specimen trees, disposed so as to display their individual beauty, and each one seems to occupy its own peculiar place. Three large purple Beeches stand in all the wealth of majestic form and colour, to which no other tree can approach. On the sunny side of a background of ancient Yews stand two graceful Acer Negundo variegata, looking in the distance a silver fountain of beauty. A large Washington Yew rises to the height of 15 feet, with two leaders and its lower branches resting upon the ground have a circumference of 180 feet. There are fine examples of Cedrus Deodara, C. Libani, Cryptomeria japonica, Cupressus Lawsoniana, C. Nutkaensis, Thujopsis dolabrata, large Walnuts and Mulberries, which have their outstretched limbs propped up; Ailantus

in front of which stands a pyramidal Golden Yew. The beds are filled with some hundreds of Tea and Hybrid Tea Roses, which were breaking strongly, and many were showing for flower. In a sheltered garden, enclosed by a broad Yew fence, were scroll beds on turf, planted with about 1000 seedling tuberous rooted Begonias. The flower garden, of which a portion is shown in the illustration (fig. 48) is on the southern side of the house, and from the broad gravel walk the terrace wall seen is backed and canopied by the Golden Tree Ivy (Hedera arborea aurea), which was assuming its yellow tints in early June. The flower garden is quadrangular in shape; the beds being lined with low Yew hedges or Box neatly clipped. The beds are mostly of simple forms. The middle one, an oval 30 feet long by 10 feet in width, has a large Chamærops excelsa as a centre, and the whole will be filled entirely with Crozy's hybrid Cannas. The other beds will be planted individually; four of Lobelia Queen Victoria, four of Heliotrope, four Mrs. Mappin (silver-edged) Zonal Pelargoniums, four of Marguerites, and four with Chrysanthemum Aigle d'Or.—F. STREET.



Timber 1000 Years Old.—Experts seem to be divided as to which of the two hard woods—Jarrah and Karri—of Western Australia is the most durable. Jarrah wood piles 2 feet 2 inches square, driven thirty-three years ago at the Largs Bay pier, were found on examination to be as sound as the day they were put in. Some specimens of Karri wood taken from a fence were examined in London, and though the wood had been underground for twenty-five years it was perfectly sound. A specimen of Jarrah wood under similar circumstances showed serious decay. Timber of the Tamarisk or Shittim wood has been found perfectly sound in the ancient temples of Egypt in connection with the stonework which is known to be at least 4000 years old.

Cucumbers.—As in the case of all vegetables, the multiplication of the varieties of Cucumbers, or in many cases synonyms of older forms, goes on from year to year, but it is doubtful if there is a better all round sort than Rochford's Market Favourite if the chief consideration is a daily supply of average sized Cucumbers of good quality. I have had this variety in bearing for eight months, and the plants were in capital health when they had to be uprooted to make room for other things. It is hardy, short jointed, and very productive, from four to seven Cucumbers showing at each joint. If a continuous and long sustained supply is required, thinning of the fruit must be practised, and if this is carried out there is little check in the growth of the plant. As far as stimulants are concerned, each grower has his special fancy; personally, I have found nothing better than fresh horse droppings. An occasional top-dressing is given of this, and the interstices filled in with good soil.—A. G. B.

Clematises for Arbour.—We have a beautiful display of Clematises this year, though our garden is exposed to some of the worst of London smoke—that from the frequently passing engines in a railway close by. The plants are trained over the porch of a summer house, not rigidly and formally, but naturally, and we have a succession of flowers from early spring until autumn. First, the charming white Clematis indivisa produces its clusters of pure white flowers in abundance; this is followed by C. Jackmanni varieties, which are still lovely, loaded with wreaths of rich purple flowers; and now the snowy cloud-like C. Flammula is expanding its diminutive but pretty white blooms in profusion. The beauty of these plants cannot be exaggerated, and their value for suburban gardens is inestimable.—R. J.

Lavender Farming.—Why not earn a living by scent farming? That is the latest hint to the unemployed woman with a certain amount of capital. At Mitcham, Wallington, Sutton, Banstead, and through the neighbouring districts vast quantities of scent-producing crops are grown. A contemporary describes a recent visit to one of these scent farms, occupying an area of over 600 acres, covered with broad breadths of Lavender, Peppermint, Rosemary, Camomile, and Pennyroyal. In the centre of one field of Lavender, comprising some 70 acres, the owner has erected a two-storied chalet, from which commanding views are obtained of all the neighbouring fields. It was delightful in such a breezy atmosphere to breathe the delicious odours given off under the influence of a July sun, the power of which puts strength and merit into the oily organs of the purple blue spikes which wave in every direction. As there must always be a world-wide demand for these sweet commodities, it would seem to be an undertaking eminently adapted for ladies. Firstly, the right kind of land must be acquired, a deep sandy loam, preferably overlying chalk. A plantation of Lavender stands four years, and it costs about £40 per acre to prepare and put out the young plants, so that there is but trifling return the first year; after this they commence to be productive, and in favourable times the crop will give from 20 to 30 lbs. weight of oil per acre, which in good quality is worth about 40s. per lb. The fine odour and strength of the British product makes it worth from four to six times that of continental growth. August is the month for cutting and distilling. As the season approaches all is bustle and activity. Lavender is cut with a sickle, laid with regularity in mats, carried to the great vats, and after a boiling process of about two hours' duration the rich oil comes out through its proper channel, and is soon prepared for the wholesale druggist to handle.

Sedum spectabile in Pots.—Although generally grown as a border plant, this fine Sedum is eminently adapted for pot culture. It is one of the easiest of plants to grow, and will thrive under the most adverse circumstances. At the same time it repays liberal treatment by producing larger heads of bloom. The flowers are of soft rosy colour, and are borne in masses. Arranged with other plants in the greenhouse or window garden this Sedum is most effective during the late summer and autumn months, and amateurs will do well to make a note of it. A compost of loam, leaf mould, and sand will suit it admirably.—C.

Growing Prize Gooseberries.—The trees are pruned of their middle branches, and trained so as to allow a free current of air amongst the branches, which are bent or tied, so as to be uniform in growth, all buds near the base of the stem being nipped off. The berries are early thinned according to the fancy and ambition of the owner, some taking almost all off, others merely thinning them sufficiently to prevent the wind knocking the berries against each other. Some grow them in little glass globes with a very small hole, into which the Gooseberry when quite small is introduced, but these are few; some grow them under shades of various sorts; all protect them from the north wind. With some kinds of berries the old tree is chosen for the show fruit, with others the young; in all the shoots of the previous year bear the best fruit. Some kinds require stronger manure than others, but all that is used must be well decayed. Some use blood; but as the roots grow wide and not deep, such rich manure as would be used for the Vine or the Plum is to be avoided.—P.

The Orchid.—In "Munsey's Magazine" "The Rich Man's Flower" is pleasantly discussed by Caroline Sheridan Baker, who refers to its cultivation, giving some hints to growers, and also describes the manner in which it is obtained. "There is no promise," she declares, "that the Orchid will come any nearer the reach of the poor man. On the contrary, great areas of the wooded country where the plant thrives in its fullest luxuriance are being denuded of timber year after year by the Coffee and Cocoa grower, and this continual encroachment of the agriculturist seriously threatens the market of the future. It has been found that the Coffee berry reaches its highest perfection in size and flavour in the same altitude as that in which the Orchid best flourishes—from 2000 feet to 4500 feet above sea level—and the demands of commerce for the latter increase at a rate alarming to the Orchid gatherer as he finds his territory growing smaller and smaller each year. This, coupled with the expense of transportation and the danger incident to the calling of the collector, who must cross yawning chasms upon improvised Bamboo bridges, swim mad wide rivers, spend nights in tree tops for protection from floods, brave wild beasts and perilous land slides, leaves little room for wonder why its devotees must pay so dear for the flower of fashion."

Vines as Town Plants.—We have many times referred favourably to the Vine as a town plant, and the following short narrative affords evidence of it flourishing in a popular district of London:—About midway in the Pentonville Road, on the left-hand side going from King's Cross, is a three-storey house which lies a little back from the road. A Vine spreads its branches all over the house. It is covered with large bunches of well-advanced Grapes. Mr. Henry Bevis is the happy owner of this flourishing Vine in the heart of London, and very proud he is of it. "People in Mecklenburg Square make a lot of fuss about their two-bunch Vines," said Mr. Bevis. "They should come and see mine. Why I counted 180 bunches yesterday, and then had not counted them all." There is no mistake about this Pentonville Vine. Last year there were 20 lbs. of luscious black Grapes. This year there will be more. Never has the Vine borne more fruit, and never has the fruit looked better. Mr. Bevis puts this down to the fact that he has taken rather more trouble with it than usual; and in spite of the uncongenial surroundings—a cocoa factory on one side and a shoe factory on the other—the Vine has flourished. There is an interesting history attaching to this Vine. Thirty-five years ago, when all the houses in Pentonville Road were private houses, an old root was cut out of a conservatory which stood at the back of Mr. Bevis's house. Mr. Bevis stuck it in his front garden. For two years it did not show a leaf. Then it blossomed forth, and has been bearing fruit regularly for over twenty years. To keep the Grapes on it is no small matter. There is not a small boy in Pentonville Road and the neighbourhood who will not have a good word to say for Mr. Bevis's Grapes. In addition to a Vine, Mr. Bevis has two Fig trees which bear prolifically every year, but unfortunately the fruits never get quite ripe.



The Passing of the Aphis.

A GREAT deal has been said about the mysterious coming of the aphis on Rose plants, their astonishing powers of asexual increase, and the absolute necessity of dealing with them early and wholesale, lest the plants be absolutely smothered by their numbers. To my mind their periodical disappearances, which happen every year, are even more wonderful. Up to Rose show time this year I had a good deal of trouble with them; during that three weeks they were necessarily neglected, and since then I do not know that I have seen one. I do not think that I could find one just now anywhere, though I know by experience that they will come again before the summer is over. What has become of them that they have been so effectually cleared off? It always happens, as far as I can remember. Can anyone say?—W. R. RAILLEM.

The Logan Berry.

AN interesting article came under our notice in the "Newcastle Daily Chronicle" of August 3rd on a new fruit named the Mahdi. We feel specially interested in this reference, as we imported from America about three years ago a new fruit called the Logan Berry, which has since become very popular. It was raised by Judge Logan, of California, hence the name, and is a hybrid between the Aughenbaugh Blackberry and the Red Antwerp Raspberry.

When ripe the fruit is deep reddish maroon in colour; it is an abundant cropper, and valuable alike for dessert and culinary purposes. We have sent it to many places throughout the British Isles, and this season our attention has been drawn to it from several quarters, by persons whom we supplied, commenting very favourably upon the quality and productiveness of this new fruit. We have it in full fruit, and have also had the pleasure of inspecting it in full fruit in several other localities. Last week we saw it fruiting splendidly in the North Marine Park, South Shields. Last month we saw a handsome crop of large luscious fruit on plants grown by G. H. Wood, Esq., manager of the Isle of Man Railway, in his garden in the Isle of Man; also as grown by Mr. Crebbin, Ballagawne, in the Isle of Man; both the latter plants were grown on the wall. Messrs. T. Cubbon & Son, Rushen Abbey Gardens and Fruit Preserving Company, also showed us their plants, bearing an enormous crop, and had them growing in the open, similar to Raspberries, and the fruit was large and beautiful. The fruit was submitted to the R.H.S., and awarded a certificate of merit on July 13th, 1897.—WM. FELL & Co.

Ashleaf Kidney Potatoes.

OF all Potatoes in commerce the Ashleaf still remains the most remarkable, because it has been in cultivation for some sixty to seventy years at least, whilst its origin seems to be lost in the dim and distant past. But it is very widely grown still, and although it is found under most diverse appellations, it still remains the Ashleaf Kidney. Every gardener is familiar with its comparatively long flattish form, broadish at the bud end, and rather pointed at the heel; flesh rather yellow, and when well cooked should be flaky and of nice nutty flavour. But it would seem as if the Ashleaf needed specially favoured soils to enable it to mature its old properties fully, or else that the stock has, if not in former cropping, at least in texture, materially degenerated. Improved is a term commonly given to certain stocks of the Ashleaf. It is a "superlative" term in diverse senses, but specially is it superlative when it emphasises absolutely no improvement whatever.

There have been several Ashleaves grown in the large Potato trial at Chiswick this season, but not one would pass muster in quality when cooked in comparison with either Beauty of Hebron or Early Puritan. Now that must be due either to decadence of stock or else to the incapability of the soil to produce that high table quality we have so long associated with the Ashleaf Kidney. The once favoured Walnut-leaf Kidney, of which the popular Mona's Pride was a stock, seems now to have disappeared from commerce. It was well known for its roundish curled leaves, and its spring shoots green in colour, whilst those of the true Ashleaf are purplish. I am not sure whether it would not be worth while could stock of the Ashleaf under any name be obtained from all parts of the kingdom and grown somewhere, so that it may be possible to determine whether one stock was really better than another, or whether all were alike. Certainly we cannot yet dispense with the Early Ashleaf.—A. D.

Rose Wm. Allan Richardson.

I NOTICED on page 110 a paragraph on William Allan Richardson Rose. My experience of that Rose is somewhat different, for I have one that has been growing on south side of my house for some six years. It thrives most luxuriantly, and blooms twice a year regularly, and with the true colours. I am on the Cotswold Hills; my house is fully 600 feet above sea level, and soil is not really suitable for Roses—in fact, others soon die off. No rule without an exception.—T. W. SWINBURNE, *Corndean, Winchcombe.*

The Honey Harvest.

"An English Bee-Keeper" says, page 163, of August 16th, "With the exception of the Heather the honey harvest is at an end." My bees are quite a mile and a half from the edge of the Heather, and Sunday last, the 12th, they found the Heather, and during the seven beautiful days we have had they have gained more weight than I remember them doing in any previous year. With a continuance of favourable weather Heather honey promises to be plentiful. Before the 12th swarms were in a sad plight.—A. D. S. K.

The Planes on the Thames Embankment.

It is gratifying to see that the *Journal of Horticulture* has an eye to the interests of tree culture in London. Every lover of trees, and everyone who appreciates the improvements going on in our wonderful city, must rise both pleased and instructed after reading the talented article on London Planes in the *Journal of Horticulture* of the 9th of August last. One does not wish to say a word against any scheme for the improvement of the sanitary or domestic conditions of our large cities and towns. But I have often thought the *how* and *when* in these operations are not sufficiently considered. The laying bare of the roots of the Planes on the Thames Embankment, and leaving them in a mutilated state exposed to the dry hot air of July, might surely have been avoided. The trees must suffer by the disturbance and mutilation, to what extent the future will probably show. Why could not the work have been done between the months of September and March, when the trees, root and top, were in a state of comparative rest, instead of in the summer months, when in a state of the greatest sensitiveness?

It is sad to think that these trees, after passing satisfactorily through the critical period of adolescence, may be wrecked by careless or ill-timed operations, or hurried prematurely into a state of decrepitude. There are those I fear who may think it hypercritical to talk of delaying important works for the sake of a few trees. But is it so? Not only is the beauty of our cities and towns improved by the presence of large trees, but the comfort of their shade and the purifying influences they exert on the air by the action of their leaves count for much more than is generally thought of.

These Planes on the Embankment already form, in my judgment, an avenue at once grand and beautiful, and the time is not far distant when, if judiciously cared for, they will be spoken of as magnificent. The planting was begun, I believe, in 1868, but when completed I do not remember. Considerable time elapsed between the planting of the first and last of them, on account of various obstacles which stood in the way and could not be at once removed. I remember Mr. Mackenzie and several City authorities consulting me as to what trees should be planted there, and I said at once Planes or Black Italian Poplars, but said also that I should like to think over the matter before giving a decided answer. Shortly afterwards Mr. Mackenzie called upon me again with a long list of trees suggested from various sources, in which the Ailantus was conspicuous. I reached down from my library shelves the index volume of Loudon's "Arboretum," &c., and we read carefully through that long list. One by one was this list relieved of its ineptitudes. Again and again at intervals we met and discussed the matter, till at length I gave a decided opinion in favour of the Plane.

When this tree was decided on I suggested to Mr. McKenzie that he should go or send some qualified person to see and choose the individual trees when in leaf. The reason for this suggestion was that many of the Planes in the nurseries at that period were raised from seed (not from cuttings and layers as at present), and differed so much in rate of growth and beauty of aspect as to be well worthy of this special selection to secure uniformity. This, I believe, was done, but a few dissimilar seedlings (in aspect) seem to have crept in, and it becomes a question whether these should not be removed and be replaced by handsomer trees taken from those removed from the crowded lines. The effect would not be immediately perfect, but by careful removal, new soil, and skilful pruning, and additional feeding by manure and water, they would, in my judgment, be soon brought up in aspect and beauty to their more favoured congeners. Again, I suggested that the trees should be planted at half the distance apart (for the sake of shelter) at which they were ultimately to remain, removing every second tree before the lines became crowded.

I have often during the last thirty years inspected what is already a splendid avenue, and may become in the near future one of London's chief ornaments.—WILLIAM PAUL, F.L.S., V.M.H.

Horticultural Shows.

Weston-super-Mare, August 14th.

ALL things considered, this was one of the best exhibitions ever held in Weston-super-Mare. Favoured with beautiful weather, the attendance of visitors was good, though there was room for improvement in this respect. Messrs. Masters and Moon proved to be very efficient honorary secretaries.

There were five competitors in the class for eighteen specimen stove and greenhouse plants, and a very imposing display was made. Mr. J. Cypher, Cheltenham, was first, having grand Palms and Crotons, while the flowering plants comprised a remarkably fine *Phœnocomma prolifera* Barnesi. The second prize was awarded to Mr. W. Finch, Coventry; Mr. W. Rowland, gardener to W. Brock, Esq., Exeter, being third, and Mr. W. Vause, Leamington, fourth. Mr. Cypher was the principal prizewinner in various other classes for plants, including Orchids, the other exhibitors named taking the remaining prizes. In the more local classes Messrs. W. Brooks & Son, Weston-super-Mare, were the most successful, showing many well grown plants, and they were also first in the open class for Ferns.

Five excellent groups were arranged, these occupying the full length of one large tent. Mr. W. Vause was first, Mr. W. Finch second, Mr. Rowland third, and Messrs. Brooks & Son fourth, all employing numerous choice plants, and displaying good taste in their arrangement.

Cut flowers were scarcely so numerous as usual, Roses and Dahlias being most missed. Mr. Treseder, Cardiff, had the best Dahlias, with Mr. G. Humphries, Chippenham, a good second. Mr. A. A. Walters was most successful with herbaceous flowers; Asters were particularly good.

Fruit was more remarkable for quality than for quantity. Only two growers competed, with eight varieties. Mr. W. Strugnell, gardener to Colonel Vivian, Rood Ashton, Trowbridge, was first with Alicante and Muscat of Alexandria Grapes beautifully coloured, a handsome Frogmore Seedling Melon, Walburton Admirable Peaches, Pineapple Nectarines, Governor Wood Cherries, Moorpark Apricots, and Doyenné d'Été Pears, all in good condition. Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., Hill House, Langport, was a creditable second. For four dishes Mr. S. Kidley, Wellington, was easily first, showing excellent Black Hamburgh Grapes, Royal Sovereign Melon, Dr. Hogg Peaches, and Pineapple Nectarines. Mr. F. J. Read, gardener to F. J. C. Parsons, Esq., Bridgwater, was second. The Grape classes were all well filled, and in every instance the winning bunches were fairly large in bunch and berry, also admirably coloured. For Muscat of Alexandria Mr. Strugnell was first; and Mr. R. Masson, gardener to the Rev. A. J. Burr, second. For any other white Mr. G. Sutton, gardener to W. A. Todd, Esq., was first; and Mr. R. Masson second, both showing Buckland Sweetwater. Mr. S. Kidley had the best Black Hamburgh; second, Mr. G. Sutton. In the any other black class Mr. W. Daffurn, Weston-super-Mare, was first, showing Madresfield Court; second, Mr. J. Lloyd with the same variety. Mr. G. Lock, Crediton, was first, and Mr. Lloyd second with a Pine Apple. Peaches, Nectarines, and hardy fruit generally were good, but the Melons were somewhat inferior. There was a fine show of vegetables.

Taunton, August 16th.

MANY grand shows have been held at Taunton, but it is doubtful if any have equalled that under notice, and those competent to express an opinion agreed unanimously that finer displays of plants have not been seen, or are likely to be met with elsewhere this season. Mr. J. S. Winsor is the secretary, this gentleman carrying out his duties in a most praiseworthy manner.

The large tent devoted to open to all exhibits was a splendid sight, the whole of one side being occupied by trained stove and greenhouse flowering plants, the opposite side being taken up by fine-foliaged plants, tall Palms forming a handsome background for the flowering plants alluded to. As usual Mr. J. Cypher, Cheltenham, was well to the fore, taking first prizes in every class he competed in. Particularly fine were his specimen *Ericas*, *Phœnocomas*, *Statice*s, and *Bougainvilleas*, and the noble *Kentias*, *Latantias*, and other Palms. Mr. W. Finch, Coventry, was second for both twelve flowering and twelve foliage plants. Mr. W. Vause, Leamington; and Mr. W. Rowland, gardener to W. Brock, Esq., Exeter, gained the remaining prizes. The competition in the other plant classes was equally good, Mr. W. Thomas, gardener to Wilfred Marshall, Esq.; Mr. S. Dight, gardener to the Rev. D. J. Pring; Mr. E. Merritt, gardener to H. S. Baily, Esq.; Mr. A. J. Spiller; Mr. C. Cooper, gardener to W. Macadam Smith, Esq.; and Mr. W. Hayward, gardener to Miss Neal, being among the local competitors who distinguished themselves.

Another large tent was filled with pot plants grown by amateurs or their gardeners. Among the many shown not a few would have gained prizes in the open to all classes. Particularly good were the twelve specimens which gained Mr. W. Thomas the first prize. Mr. W. Rowland was a good second. Mr. Thomas was easily first for six flowering plants, showing admirably flowered specimens of *Ataccia cristata*, *Pancratium fragrans*, *Anthurium Scherzerianum*, *Epidendrum prismatocarpum*, *Dipladenia Brearleyana*, and *Bougainvillea glabra*. Mr. W. Rowland was second. The first prize for four plants also went to

Mr. Thomas, Mr. S. Kidley, gardener to W. A. Sanford, Esq., Wellington, taking second prize with very creditable specimens. Mr. E. Merrett was the most successful with Ferns, and Mr. Rowland with fine-foliaged plants. Numerous other classes were provided for pot plants, the most successful exhibitors being Messrs. Thomas, Rowland, Dight, Spiller, Cooper, Harman, Moggeridge, J. Stuckey, and C. Parsons.

Groups arranged for effect had a fairly large tent devoted to them. Mr. W. Finch was well first in the open to all class with a light and tasteful arrangement, the second prize going to Mr. W. Vause, and the third to Mr. Rowland. The last named was first for a smaller group, and Mr. Merrett second.

Cut flowers were extensively shown, and the quality throughout was very good. Messrs. J. Townsend & Sons, Worcester, were first for thirty-six varieties of Roses, and Mr. A. A. Walters, Bath, second, the same positions being held by these exhibitors with eighteen varieties. The best Show, Cactus, and Pompon Dahlias were shown by Messrs. J. Cray & Sons, Frome, the second prizes going to Mr. W. B. Smale, Torquay, and Mr. W. Cording, gardener to the Rev. J. W. Brancker, Corfe. Mr. S. Dobree, Wellington, was most successful with Gladioli, and the best herbaceous flowers came from Mr. A. A. Walters, Bath. Mr. Thomas was the principal prizewinner with stove and greenhouse flowers, also taking prizes for *Begonia* blooms. The tent devoted to table decorations, vases and bouquets was well filled.

In the fruit tent there was a great falling off in the number of exhibits, this being especially noticeable in the Grape classes. For a collection of eight dishes Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., Langport, was first, showing well-ripened Muscat of Alexandria and Madresfield Court Grapes, Taunton Hero Melon, Hale's Early Peach, Pineapple Nectarine, Morello Cherries, Astrachan Apples, and Jargonelle Pears. The second prize went to Mr. S. Kidley. Mr. T. Wilkins, gardener to Lady Ivor Guest, Henstridge, was third. For four dishes the Frome Flower and Fruit Co. were first; Mr. Lloyd second, and Mr. S. Kidley third. Mr. G. Sutton was first and Mr. Lloyd second for Black Hamburgh Grapes. Mr. C. Cooper was first and Mr. Lloyd second in the any other black class, both showing Madresfield Court, while Messrs. Sutton and Lloyd were most successful in the other Grape classes. Melons were fairly numerous and good. General Emerson was first, and Mr. G. J. Barnes second. There was fairly good competition with Peaches, Nectarines, and various other fruits. Vegetables were also less numerous than usual in the professional gardeners' tent, but were plentiful and of remarkably good quality as shown by cottagers.

Trade exhibits were extensive and attractive. Noteworthy among these was a fine group of pot plants, cut blooms of hardy flowers, and several of the newer Water Lilies by Messrs. R. Veitch & Sons, Exeter. Messrs. Kelway & Sons had a grand display of Gladioli and other hardy flowers for which they are reputed. Messrs. Jarman & Co. made one of their characteristic displays, and Mr. J. H. White, Worcester, had an imposing exhibit of herbaceous flowers.

Trowbridge, August 17th.

THE fifty-first annual exhibition was held on the above date under the most favourable conditions as regards weather, in what is known as the Flower Show Field, which, through the munificence of the late president, is now the property of the society. Everything connected with the show is carried out with mathematical precision, excepting that of marking out the spaces for the varied classes.

Specimen flowering plants and towering pyramidal Fuchsias are the great pride of Trowbridge, the latter having a fame extending far beyond the neighbourhood. In these the veteran Mr. George Tucker still remains invincible. Two classes only are provided—namely, six distinct and four varieties, both of which were secured by Mr. Tucker. Mr. Chislett, gardener to E. T. D. Foxcroft, Esq., was a good second, and Mr. Pocock, Hilperton, third, in both instances. Mr. Mathews, gardener to Sir Roger Brown, Trowbridge, staged the best nine specimen flowering plants. Mr. Tucker was a good second, and Mr. Hallet, Bath, third. For six and three plants Mr. Tucker won, also for a single specimen. Mr. Mathews followed in each class with scarcely less inferior specimens. The latter staged well in the class for nine foliage plants, Messrs. Hallet and Strugnell, gardeners to Colonel Vivian, following. The latter was first in the class for a new or rare plant.

Adverse weather and the clashing of other shows had a marked effect on the extent and quality of the cut flower section. Dahlias, which usually make a brave display, occupied but a small portion of tabling. Messrs. Cray, of Frome, won with Cactus, Show, and Pompon in their usual good style; Messrs. Keynes, Williams & Co., Salisbury, following, the latter being particularly good in the newer Cactus varieties. Roses, too, showed a falling off from the same causes. For thirty-six varieties Messrs. J. Townsend & Sons, Worcester, took the lead, and also for twelve triplets; Messrs. Mattock, Oxford; Cooling and Sons, Bath; G. Garaway and Hobbs, Bristol, winning the remaining prizes, and also those for twenty-four varieties of Tea-scented and twelve single blooms of Teas. Herbaceous flowers, annuals in bunches, Gladiolus, Asters, stove and greenhouse flowers, Sweet Peas, all contributed their portion to make the show interesting and attractive. Mrs. Woodland easily took first prize for a decorated table, Messrs. E. S. Cole & Son being second. The Frome Fruit and Flower Co. won with shower and hand bouquets in their well-known excellent style.

Fruit made a good show on the whole, some classes for hardy fruit being thin from the lateness of the season. For ten dishes Mr. Strugnell was an easy first, staging Muscat of Alexandria and Alicante, both well coloured; Frogmore Orange Melon, Stanwick Elruge Nectarines, Washington Plums, Moor Park Apricots, Cherries, Pears, and Apples. Mr. F. Bible, gardener to H.H. Priuce Hatzfeldt, Chipperham, was second, his best dishes being Gros Maroc Grapes, and beautiful black Tartarian Cherries. For six dishes Mr. Strugnell was again first, Mr. Pymm, gardener to Mrs. Goldsmith, second, and the Frome Fruit and Flower Co. third, the competition being very close and the quality of the whole excellent. Four classes for Grapes brought out a good competition. Messrs. Clack, gardener to C. E. Colston, Esq., M.P., Devizes; Strugnell, Bible, Wilkinson, Bristol, the Frome Fruit and Flower Co., Davis, Codford, and E. S. Cole & Son were the chief winners. General Buller won a first and a second prize in the Melon classes; the Frome Fruit Co. staged the best Peaches, and Mr. Pymm the finest Nectarines, Apples, and Pears. Plums and Cherries were numerous staged. Plums and cooking Apples bespoke the most plainly the lateness of the season.

Osman, gardener to L. Baker, Esq., Chertsey, was first, and Mr. R. Chamberlain, gardener to F. Loneragan, Esq., Reading, second. The winner staged the following crops, and by the courtesy of Mr. Bell, the assistant secretary, we are enabled to give the points awarded and the remarks made. White Grapes, Foster's Seedling, 7, excellent finish, rather small in bunch; Black Hamburg Grapes, 7, very good, imperfectly thinned; Peaches, 5, good but unripe; Nectarines, 6, excellent colour, even in size, unripe; Melons, 7, excellent; Figs, 6, good but damaged; Plums, 7, perfect; Potatoes, 4, over-large, uneven; Tomatoes, 5, uneven; Cucumbers, 4, good but one seeding; Peas, 4, fair for the season; Runner Beans, 5, good but uneven; Onions, 5, good shape, rather small; Carrots, 4, good; table plants, 9, excellent, but too many Crotons; cut flowers and foliage, 8, well selected; and tasteful arrangement, 9, very attractive—total, 102. Mr. Chamberlain was two points behind only, and would have gone ahead had his plants, flowers, and arrangement equalled his crops.

Some excellent vegetables were contributed by the several growers, but Carrots and Parsnips were, as a whole, the finest features of the show. The former were perfectly clean and straight, but the exhibi-



FIG. 49.—REINWARDTIA TETRAGYNUM.

(See page 178.)

Vegetables of all kinds were exceptionally good in quality, though as might be reasonably expected, less in quantity than usual. The society's and special prizes for collections brought out an excellent display, Cauliflowers, Carrots, Potatoes, and Onions being very fine.

Crystal Palace. August 17th and 18th.

THE fifteenth annual "One and All" Flower Show was held in the Crystal Palace, and, despite the increased railway charges and other adverse influences, was equal, and in some directions superior, to its predecessors. When both sections were staged on the Saturday the whole of the northern nave was filled, and some products had to be relegated to the sides. The arrangements of the exhibition, under the directorate of Mr. George Waugh, were most admirable. To give a complete prize list would prove an endless task, and we therefore confine ourselves to a brief reference to the vegetables in section 2; flowers and plants were also good.

The most important class in the entire exhibition was known as the educational class, and called for a combination of plants, flowers, fruits, and vegetables. Each crop is valued at a certain point standard, and the judges were required to mark the worth of each in marks on the cards provided, and to add appropriate remarks. These cards were subsequently placed on the exhibits of which two were staged. Mr. T.

bitors do not seem to appreciate the difference between the Surrey and Intermediate types. Potatoes were remarkably good, though, as is always the case, some of the tubers were scabbed; or, as one gentleman elegantly put it, were afflicted with eczema. For a collection of ten kinds Mr. A. Basile, gardener to the Rev. De Vuyst, Weybridge, was an excellent first. Mr. J. Holton, Oxford, was a creditable second, and Mr. W. Emerton, Buckingham, third. Each showed in really fine form. Onions were numerous and good, and the prizes in the several classes were divided between Messrs. R. Chamberlain, W. Emerton, J. Holton, A. Basile, and J. Martin of Newells.

For six dishes of white Potatoes, three round and three kidney, Mr. J. Holton was first with grand dishes of Satisfaction, Coles' Favourite, Ideal, Windsor Castle, Up-to-Date, and Centenary. Mr. A. Basile was second, and Mr. Palmer, Oxford, fourth. Mr. J. Holton was also first for two dishes of round Potatoes and for two dishes of kidney varieties, showing well in every case. Mr. W. Emerton won handsomely in the class for a collection of salad, Mr. Basile followed in capital form. Marrows were shown in great numbers, and comprised some of good size for table with others very much too large.

Mr. J. Osman secured the premier awards in the classes for a collection of indoor fruit, hardy fruit, and black and white Grapes. In the first named Mr. C. Reed of Dorking was second, and included in his collection Royal Sovereign Strawberry; for hardy fruit Mr. R. Chamberlain was second, and for Grapes Mr. W. Taylor of Forest Hill.

Shrewsbury Floral Fête.

CONTINUED FROM PAGE 173.

The Cactus varieties made a brave show in the class for twelve vases of six blooms each, there being three competitors. Again Mr. S. Mortimer won easily, the varieties all being of the true Cactus form. They were Chas. Woodbridge, Britannia, Mary Service, Lucins, Mrs. J. J. Crowe, Mrs. Carter Page, Emperor, Mayor Tuppenny, Starfish, Countess of Lonsdale and Exquisite. Mr. Jas. Davis followed with a weaker display, and Messrs. M. Campbell & Sons, High Blantyre, third. In the smaller class for six vases of three blooms each (nurserymen excluded) there were three entries. Mr. Jas. Davis here carried off the first prize, while Mr. Roe, gardener to E. W. Cuddick, Esq., followed, and Mr. J. Cooke came third.

In the class for twelve bunches of Pompon Dahlias, ten blooms each, the competitors numbered two. The first prize was taken by Mr. W. Roe for blooms rather too large in type, while Mr. J. Cooke brought up the rear. The boxes of cut Begonias were excellent, Mr. J. B. Blackmore winning first place with a grand box of double flowers tastefully arranged with Maidenhair Fern and moss. Messrs. B. R. Davies & Son were a capital second, and Mr. H. Cliff came in third.

It is a pleasure to see Asters staged without their fancy frills or collars, which detract so much from the beauty of the flowers. Here Messrs. Clark & Son won well with some capital Victorias; Mr. Jas. Davies was second with a mixed collection, and Mr. R. Morrow, Leominster, made a good third with a capital box of Comets. The county class for twelve bunches of hardy flowers was a fine one, and contained some good collections. The first position was captured by Mr. G. J. Squibbs, who staged Romneya Coulteri, Phlox Aurora, Statice latifolia, and Echinops Ritro well; Mr. E. Haycock, gardener to the Right Rev. Bishop of Shrewsbury, made a worthy second, as did also Mr. G. Davies for third place.

A smaller class was also provided for six bunches of a similar character, and there were six good exhibits, but Mr. G. J. Squibbs won with ease, the bunches being fresh and bright. Mr. A. Jones was second with flowers well displayed, and Mr. E. Haycock was third. Annuals were represented by twelve bunches, and there were three exhibits. Here Messrs. Gunn & Sons, Olton, Birmingham, were first with good bunches of Sweet Pea Mars, Nigella hispanica, Larkspur, Shirley Poppies, and Comet Asters. Mr. G. J. Squibbs was second, and Mr. J. Langley third.

For six trusses of single and a similar number of double Zonal Pelargoniums, distinct, Mr. A. Myers scored easily, while Mr. H. Huxter was a fair second. In the three classes for Carnations and Picotees the schedule states that neither dressing nor manipulation is allowed. For twelve flakes or bizarres, three blooms each, Messrs. M. Campbell & Son were the only competitors, and were deservedly awarded the first prize for a good box. The class for twelve Picotees, trebles, the competition was again limited, Messrs. M. Campbell & Son being first, and Messrs. Pemberton & Sons second.

For twelve trebles, to include selfs, fancies, or yellow ground varieties, there were seven entries, and a fine show they made. Messrs. M. Campbell & Son were again placed first with a capital exhibit. Mr. W. B. Vernon was a good second with clean fresh flowers, and Messrs. Pemberton & Sons, Walsall, were third. The exhibits of twelve cut double Begonia blooms brought out five entries, Mr. J. B. Blackmore staging a splendid box, that secured the premier prize for him; Messrs. B. R. Davies & Sons were second with a capital box, and Mr. J. V. Macdonald, gardener to G. H. Kenrick, Esq., Edgbaston, was third.

Gaillardias were represented by six bunches of six blooms each, and made a pretty exhibit. The first prize fell to Messrs. Gunn and Sons, who staged them in fine style; while Mr. T. B. Grove, Sutton Coldfield, was second, and Mr. G. Gilbert, gardener to Capt. T. A. M. Dickin, Wem, third. The class for eighteen spikes of Gladioli, Messrs. Harkness & Sons, Bedale, were a grand first; the spikes were clean and well developed; and Mr. R. Morrow followed with weaker spikes. In the county class for twelve spikes there was only one exhibitor, Mr. G. Gilbert, who was awarded first prize with a moderate display.

The Sweet Peas, of which there are twelve distinct varieties arranged in vases, with any Grasses or foliage, made a grand display, while the quality was admirable. Mr. T. Aldersey came first with an exhibit full of quality and beautifully arranged, the colours being clean and bright. Mr. T. B. Grove was a good second, and Mr. Watkin Jones, gardener to W. L. Chew, Esq., Market Drayton, was third.

Fruit.

The fruit section of this magnificent exhibition is invariably of the first excellence, and the committee does everything in its power to encourage the champion growers to bring of their best. On the present occasion the *pièce de resistance* was for a collection of twenty-four dishes of British grown fruit to occupy a space of 10 feet by 4 feet 6 inches. Four prizes were offered, of the respective values of £25, £20, £15 and £10, and the judging was done wholly by points; in this, and in fact in all fruit classes, the judges being specially

instructed to regard quality before size. It was essential that each table be decorated with non-flowering plants, loose foliage and cut flowers at the exhibitor's discretion, and special awards of £3, £2, and £1 were offered for the decorative arrangements only. A list of fruits from which a selection could be made was given in the schedule together with the maximum points obtainable by each. There were five competitors, of whom Mr. J. H. Goodacre was first both for the collection of fruit and also for the floral decoration. The Grapes were Canon Hall Muscat, fine in berry; Madresfield Court, well finished; Muscat of Alexandria, large in berry but rather green; and Black Hamburg in splendid condition. Melons Hero of Lockinge, Countess and Victory of Bath, Peaches Bellegarde and Royal George, Nectarines Stanwick Elruge and Pitmaston Orange, Fig Brunswick, Apple Worcester Pearmain, Plum Jefferson, and Pears Souvenir du Congrès, and Triomphe de Vienne. The total number of points awarded was 157½.

Mr. J. McIndoe secured the second place both for the fruit and for the decoration. It had not the clean finish of the premier stand, but the Black Hamburg and Lady Downe's Grapes, Stirling Castle Peaches, Spencer Nectarines, Lady Sudeley and Gascoyne's Apples, and Souvenir du Congrès and Pitmaston Duchess Pears, were particularly creditable. Mr. G. Mullins was third for fruit with Bellegarde Peach, Stanwick Elruge Nectarines, and Black Alicante Grapes as his best. The points were 128½. Mr. Mullins was also third for decorations. Mr. R. Dawes was fourth with 121½ points. Mr. S. Bremmell was awarded a special prize.

A sum of £40 was offered in four prizes for a dessert table, decorated with plants (in pots not exceeding 5 inches), cut flowers (Orchids excluded), and foliage, table 10 feet by 4 feet 6 inches. Not more than fifteen dishes of fruit selected from the printed list. Each table was to be covered with a white cloth; silver, electro-plate, wine glasses, and decanters excluded; epergnes and vases for cut flowers, and plates, dessert dishes, or other receptacles for fruits, had to be provided by the exhibitors, of whom four faced the adjudicators.

The much-coveted premier position was secured by Mr. J. Jones, gardener to Mrs. F. Need, York House, Malvern, with Madresfield Court, Muscat of Alexandria, and Gros Maroc in superb form; Melons Best of All and Ne Plus Ultra, Peaches Violette Hâtive and Stirling Castle, Nectarine Stanwick Elruge, Apricot Moor Park, Fig Brown Turkey, Apple Beauty of Bath, and Plum Grand Duke. The fruits were all of good average quality. The second special prize for the decorations went to Mr. J. Jones. Mr. T. Bannerman was second with Grapes Gros Maroc, Madresfield Court, and Muscat of Alexandria; Melons Golden Perfection and Trentham Hybrid, Nectarines Lord Napier and Violette Hâtive, Peaches Barrington and Royal George, Fig Brown Turkey, Apricot Moor Park, and Cherry Morello. The Gros Maroc Grapes made the best feature. Mr. R. Dawes was third both for fruit and for decorations. Mr. J. H. Goodacre received no prize for fruit, but secured the premier award for decorations. He was disqualified in the fruit class for showing three varieties of black Grapes instead of two.

In the class for a collection of twelve dishes of fruit, twelve distinct varieties, not less than nine kinds, and not more than two varieties of a kind; black and white Grapes were regarded as distinct kinds of fruit, two bunches of each variety. The space allowed was 6 feet by 4 feet 6 inches, and each collection had to be decorated. Special prizes were again awarded for the decorative arrangement, irrespective of the fruit.

Mr. J. H. Goodacre's stand included two dishes of Apples, Figs, two bunches of black and two bunches of white Grapes, two Melons, two dishes of Nectarines, two dishes of Peaches, one dish of Pears, one dish of Plums, for which 102 points were awarded. Beauty of flowers and foliage received 6½ points, harmonious blending of colour 8½ points, and general arrangement for effect 9 points, giving a total of 126 points. Needless to say, this was a superb exhibit. Bridal Wreath flowers and Montbretias were the only flowers employed. Mr. J. McIndoe was second with Apricots, Figs, black and white Grapes, Melons, Peaches, Nectarines, Pears and Plums, these securing 90 points. Beauty of flower and foliage, 7; harmonious blending of colour 8½, and general arrangement for effect 8, giving a total point value of 113½. Mr. G. Mullins, gardener to Lady Henry Somerset, Ledbury, was third with 112 points, of which 91½ were for fruit and the remainder for flowers and foliage, blending of colour, and general arrangement. Mr. T. Wilkins, gardener to Lady Theodora Guest, Inwood House, Henstridge, was in the fourth place with 89 points, of which 73 were for fruit and the remainder for flowers, foliage, harmony of colour, and general arrangement for effect.

The succeeding class was open only to growers in the county of Salop, and the schedule requirements were for a collection of nine dishes of fruit, not less than five kinds or more than two varieties of a kind, including two bunches of black and two bunches of white Grapes; Pines were excluded. Each collection had to be decorated, and a table space of 3 feet 6 inches by 4 feet 6 inches was allowed. Special recognition was accorded to the decorative arrangements. Mr. J. Langley was first of the five exhibitors. The Grapes were Madresfield Court and Foster's Seedling; Peaches Grosse Mignonne and Hale's Early; Nectarine Early Rivers; Apricots Shipley's; Pears Jargonelle; Plum Prince Engelbert; and Melon Hero of Lockinge. Mr. J. Langley was

second for decorations. Mr. S. Bremmell was second for fruit, and Mr. W. Dawes third. Mr. C. Roberts received no prize for fruit, but was first for decoration; Mr. S. Postings was third for decoration.

The principal Grape class was for six bunches, two each of three distinct varieties. The first prize of £10 was handsomely annexed by Mr. J. Langley, gardener to the Rev. T. M. Bulkeley Owen, Tedsmore Hall, with Black Hamburg, Black Alicante, and Madresfield Court. Messrs. D. & W. Buchanan, Kippen, N.B., were second, their Alnwick Seedling being perfectly finished. Mr. J. Campbell, gardener to C. E. Newton, Esq., Mickleover Manor, Derby, was third with Black Hamburg as his best. There were eight competitors in this class.

Messrs. D. & W. Buchanan were a splendid first for four bunches of Grapes, two each of one black and one white variety, with Muscat of Alexandria, beautifully coloured, and Madresfield Court, slightly red at the heel, but very fine in size of berry. Mr. J. Campbell second with Canon Hall Muscat in good condition for the variety, and splendid Black Hamburg; and Mr. J. H. Goodacre third with Madresfield Court, fine in berry but green, and Muscat of Alexandria, one bunch excellent and the other green. There were nine competitors.

For two bunches of the best new Grape, raised and introduced during 1895-1900 inclusive, a special class was set apart, and there were only two contestants. Mr. J. McIndoe, gardener to Sir J. W. Pease, Bart., Hutton Hall, Guisboro, was first with superbly coloured Directeur Tisserand, and Messrs. D. & W. Buchanan second with Diamond Jubilee, slightly red at the heel.

In the class for three bunches of Black Hamburg Grapes the premier award was taken by Mr. A. Ruddock with perfect bunches of superb colour. Mr. J. H. Goodacre was second, but the bunches had several red berries, and Mr. J. Campbell third with smaller berries of fine colour. There were nine entries.

For two bunches of Madresfield Court Grapes Mr. W. Coates was first with immense bunches; Mr. A. Salt, gardener to Mrs. Wilson, Market Drayton, second with well finished berries; and Mr. J. H. Goodacre third with grand berries that were unfinished. There were five exhibitors of two bunches of Black Alicante Grapes, and the place of honour was assigned to Messrs. D. & W. Buchanan, who showed handsome bunches. Mr. J. Langley was second with splendidly coloured berries, and Mr. W. Coates third.

For two bunches of Gros Colman or Gros Maroc Grapes, Mr. G. Grimmer, gardener to W. G. Phillips, Esq., Berwick House, was first with superb Gros Maroc, Mr. J. Langley second with the same variety, smaller in berry, and Mr. J. H. Goodacre third. Mr. W. Coates was first in the class for three bunches of white Muscat Grapes, with Mr. T. Bannerman, gardener to Lord Bagot, Blithfield, Rugeley, second, and Mr. W. Nield, Holmes Chapel, third, all showing Muscat of Alexandria.

For two bunches of any other white Grape Mr. B. Ashton was first with small but marvellously coloured bunches of Buckland Sweetwater; Mr. A. Hall was second with Foster's Seedling, and Mr. E. Jones, gardener to A. M. Barber, Esq., Wellington, Salop, third with Foster's Seedling, unfinished.

The six classes of Grapes, of which we are about to give particulars, were open only to growers in the county of Salop, and the last two to amateurs not regularly employing a gardener. For two bunches of Black Hamburg the first prize was awarded to Mr. A. Salt, the second to Mr. W. Dawes, gardener to Lord Trevor, Brynmalt, Chirk, and the third to Mr. J. Langley.

In the class for two bunches of any other black Grape, Mr. A. Salt was first with Madresfield Court; Mr. S. Bremmell, gardener to H. H. France Hayhurst, Esq., Overley, Wellington, Salop, second with Alnwick Seedling; and Mr. T. Lambert, gardener to Lord Harlech, Brogyntyn, third, with Madresfield Court.

Mr. T. Lambert was first for two bunches of any white Muscat Grape with Muscat of Alexandria; Mr. A. Salt second and Mr. W. Ashwood, gardener to R. A. Newell, Esq., Admaston, third, both with the same variety. For two bunches of any other white Grape, Mr. C. Roberts, gardener to Miss Wright, Halston Hall, Oswestry, was first; Mr. W. Dawes second, and Mr. E. Jones third.

In the restricted class for two bunches of any black Grape Mr. W. Ashwood was first; Mr. A. Jones, gardener to G. Burr, Esq., Oaklands, second; and Mr. J. Cock third. For two bunches of white Grapes Mr. W. Ashwood was the only exhibitor, and received the first prize.

The prizewinners for a dish of six Peaches were Messrs. R. Grindrod, gardener to G. T. Bates, Esq., Whitfield, Hereford, with beautiful examples of Bellegarde; E. Young, Tan-y-Bryn, Bangor, with fine Royal George; and B. Cromwell, gardener to J. S. Timmis, Esq., Allerton, Liverpool, with the same variety. There were twelve entries.

For a dish of six Nectarines Mr. A. H. Hall, gardener to J. C. Waterhouse, Esq., Macclesfield, was first with Stanwick Elruge in perfect form; Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Hall, Derby, second with Pineapple of splendid colour; and Mr. B. Cromwell third, with dark fruits of same variety. Mr. H. Taylor, gardener to Lord Kenyon, Gredington, Whitchurch, was to the fore with a dish of six Apricots, showing Moorpark in grand form; Mr. R. Grindrod was second with the same variety, and Mr. H. Hunter, gardener to J. B. Wood, Esq., Henley Hall, Ludlow, third.

It was expressly stated in the schedule that the Melons in the three classes devoted to them were to be judged by flavour. For a green-fleshed fruit Mr. J. Langley was first; Mr. J. Birch, gardener to Capt. H. L. Butler, Shotton Hall, second; and Mr. B. Ashton, gardener to the Earl of Lathom, Ormskirk, third. In the class for a scarlet-fleshed Melon the first prize went to Mr. G. Gilbert, gardener to T. A. M. Dickin, Esq., Wem; Mr. R. Dawes, gardener to the Hon. Mrs. Ingram, Temple Newsham, was second; and Mr. J. Langley, third. Jas. Cock, Esq., Ridgebourne, annexed the premier award for a white fleshed Melon, and was followed by Mr. W. Coates, gardener to Col. Blythe, Llanfairfechan, and Mr. B. Ashton, in the order named.

In the class for a dish of twelve Gage Plums Mr. J. H. Goodacre was easily first with Transparent Gage, Mr. J. Langley second with the same variety, and Mr. J. McIndoe third with Green Gage. Mr. J. H. Goodacre was first for a dish of twelve purple Plums with Kirk's, Mr. J. McIndoe second with Grand Duke, and Mr. J. Langley third with Prince Engelbert. For a dish of twelve yellow Plums other than Gages, the first prizewinner was Mr. J. Langley with Oullins Golden, Mr. R. Grindrod second, and Mr. J. H. Goodacre third. For a dish of twelve red Plums Mr. J. McIndoe was first with Burbank in fine condition, Mr. J. H. Goodacre second, and Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere, Newbury, third.

Three prizes were offered for a dish of Cherries, and the successful exhibitors were Messrs. J. McIndoe, H. Huxter, and H. Taylor in the order named. The winner staged Tradescant's Heart in magnificent condition.

The five classes next following were open only to growers in the county of Salop. For six dishes of hardy fruits (Apricots, Peaches, Nectarines, and Plums excluded) Mr. H. Huxter was first with Morello Cherries, Red Grape Currants, Irish Peach Apple, Lord Derby Gooseberry, Superlative Raspberry, and Jargonelle Pears. Mr. S. Postings, gardener to Mrs. Wright, Boycott, Pattingham, Wolverhampton, was second with Morello Cherries, Bon Chrétien Pears, and Beauty of Bath Apples as his best. Mr. E. Walker, gardener to Sir W. Honyman, Bart, Cotton, Whitchurch, was third. There were five exhibitors.

Mr. H. Huxter was first for a dish of five cooking Apples; Mr. S. Postings second, and Mr. J. Abbott, gardener to Mrs. Guise, Hadnall, third. In the class for five dessert Apples, the first prize went to Mr. G. J. Fox, Ford; the second went to the same exhibitor; and the third to Mr. S. Postings.

Mr. J. Langley was first for a dish of six Pears with Jargonelle; Mr. E. Jones second with the same variety, and Mr. J. Clowes, gardener to G. F. Ward, Esq., Hadnall Hall, third. For a dish of six Plums Mr. J. Langley was to the fore with Transparent Gage; Mr. T. Brown, Column, second, and Mr. J. Birch third.

Vegetables and Non-Competitive Exhibits.

The space at our command is so limited that we find it impossible to include particulars of the vegetable and non-competitive sections, of which reports will be given in the next issue. At the moment of going to press we can only record the medals for the miscellaneous exhibits which were of exceptional variety and excellence.

LARGE GOLD MEDALS.—Messrs. J. Veitch & Sons, Ltd., Chelsea; E. Webb & Sons, Wordsley; Green, Ltd., Dereham; and Murrell and Son, Shrewsbury.

GOLD MEDALS.—Messrs. H. Eckford, Wem; and Jones & Sons, Shrewsbury.

SMALL GOLD MEDALS.—Messrs. B. R. Davis & Sons, Yeovil; R. Smith & Sons, Worcester; and Hartland & Sons, Cork.

LARGE SILVER MEDALS.—Messrs. W. Clibran & Son, Altrincham; Pritchard & Sons and Myers & Son, Shrewsbury; Jarman & Co., Chard; S. Mortimer, Rowledge, Farnham; J. Forbes, Hawick; and W. L. Pattison, Shrewsbury.

SILVER MEDALS.—Messrs. Harrison & Son, Leicester; Laing and Mather, Kelso; W. & J. Birkenhead, Sale; H. Deverill, Banbury; J. H. White & Son, Worcester; Seymour & Matthews and Blackmore, Tiverton.

We cannot close even this somewhat incomplete report without making further reference to the admirable arrangements that prevail at Shrewsbury. The leading spirits are as we have said Messrs. Adnitt and Naunton, the honorary secretaries, though several members of the committee are conscientiously industrious. Every possible thing that can be done which will facilitate the work of the exhibitors in staging their produce is carried out; while the convenience of visitors is considered in a similar manner. The committee even goes as far as to have carts at the station, which may be requisitioned by exhibitors in conveying their exhibits to the Quarry. In one respect the majority of horticultural societies in the kingdom might well take a lesson from Shrewsbury. This is in the judging, which is commenced as nearly ten o'clock as could be hoped, when we remember the immense amount of work entailed in staging; many shows with which we are familiar would be a couple of hours late with only half the work to do.

Strawberries.

THE season of 1899 was, without doubt, one of the worst on record for the outdoor cultivation of this fruit. Many acres failed to pay the rent of the land, to say nothing of the cost of labour and other incidental expenses. This year we have had a complete reversal on the score of productiveness, with the set off, in many instances, of a great amount of spoiled fruit owing to the wet weather which prevailed during the gathering period. The gardener is bound by the exigencies of the daily needs of those for whom he caters to be constantly looking ahead. It is, however, just as needful that a retrospective glance be taken now and then as a guide for the future, and I think there can be little doubt that the lesson of the past points to the fact that in dry seasons Strawberries, as far as possible, should be amply supplied with water even when growing in the open ground.

The splendid crops frequently seen as the result of treating the plants as annuals teaches another lesson that ought not to be disregarded. Layered into small pots containing fairly rich soil, the young stock quickly becomes established and ready for life on their own resources. The best place for their reception I have yet found is the site used for the summer crop of Onions. The bulbs are cleared off, the ground hoed and raked, one or two barrowloads of dry wood ashes spread over the surface, and, unless drought is experienced at the time, is then ready for planting. Last August we found it necessary to draw drills and thoroughly water, but where great numbers are planted this would not be easy of accomplishment. A light dressing of superphosphate, and after a fortnight another of soot, were all the manures given. The land had, however, been exceptionally well prepared for the Onions in the previous winter, and once more it was found what lasting benefits accrue to those who deeply and liberally cultivate.

One thing in connection with manuring occurs to me at the moment. Some of our scientific writers have condemned the use of kainit in the culture of Strawberries. I fail, however, to see if this is used in proper proportions why the potash it contains should not be beneficial, if, as we are led to suppose, that embodied in wood ashes is calculated to do so much good. I do know that one of the best crops of Strawberries I have seen for a number of years had no stimulant other than two parts of superphosphate with one of kainit added.

To add anything to what has already been written on the details of pot culture seems almost superfluous. The plants should be layered early and grown strongly to induce the formation and proper maturation of fruitful crowns; especially is this desirable when they are required for early forcing. It is interesting to note the different methods employed in obtaining the current year's stock by private gardeners and growers for market. The market man with his colossal numbers can scarcely be expected to be as particular. In the case of a grower for home use of a few hundreds, he is careful to see that all runners are removed as they appear, the idea being to concentrate the energies of the plants upon the production of fruit alone. Not so he who serves the public! In many instances the runners from his pot plants form his only means of propagation. But it may be as well to point out that while the latter generally takes care to make due provision in the matter of house and pit room and other conveniences, the private gardener has to do the best he can with shelves in all sorts of awkward draughty positions. For the market, too, there is very little of that generous feeding, without which it would be almost impossible for a man who has to make all sorts of shifts serve to bring on a few dozens to keep his plants in a sufficiently healthy condition to withstand the insect and fungoid enemies that are ever to hand to do battle with and wrest from him the results of past labour.

A few remarks on varieties may not be out of place, and here it is impossible to avoid noticing the great popularity deservedly gained by Royal Sovereign—a popularity destined, I think, to remain for some considerable time. A few years ago Noble was exploited and became a great favourite, but appears to have quickly waned in public favour. When Dr. Hogg can be persuaded to give of its best it is a grand variety; an old sort, but none the worse for that. The charge of being too small is often made against "Thurys," but I have seen very fine samples gathered from early forced pot plants when thinning has been well carried out. Keen's Seedling is now somewhat ancient, but well ripened how good it is! Sir Joseph Paxton it has been necessary for me to discard, with, I am bound to say, some regret, as in certain localities it is of fine flavour and crops splendidly. It would be to little purpose to prolong the list of names, but it is not easy to avoid mentioning President, once so indispensable, now seldom seen in good condition. When properly grown, as it was years ago, there was none to surpass its exquisite flavour. Of the newer varieties I have had little experience, and therefore leave them to other pens.—J. W. J.



Fruit Forcing.

Vines.—*Early Forced in Pots.*—The Vines intended for starting by the beginning of November must be strong, short-jointed, brown, and hard in the wood, with round, plump, well-formed buds. Although the leaves may not be off the Vines will now be at rest, for when the wood is properly ripened, and water not supplied oftener than necessary to keep the soil from becoming dust dry, and the house or place where they are is kept cool and dry, there is no danger of starting the cane buds, even when the Vines have the laterals closely pruned and the shortening effected to about 6 feet. Vines that mature with clean, healthy foliage are the only ones giving satisfactory results when early forced, but this is conditional on their being stored with concentrated food for utilisation in the early stages of their growth under forcing treatment. When the Vines have to be bought orders should now be placed, or even the canes selected and marked for delivery at an early date. All points considered there are no varieties equal to Black Hamburgh and Foster's Seedling for very early forcing. White Frontignan forces splendidly, but the clusters and berries are too small for marketing. Madresfield Court is one of the best for early work, and when well done commands good prices by its taking appearance and high quality.

Early Forced Planted out Vines.—There is seldom any question as to the ripeness of the wood in the case of early forced Vines. It is different with those not previously subjected to early forcing, but those intended for starting in November or early in December should now have the wood ripe, and some foliage perhaps falling. There must not, however, be any attempt at removing it; nor to cut the laterals close in, as that may cause the principal buds to start, therefore remove the laterals by degrees and shorten some of the long shoots, still preserving some growth, especially when the basal leaves are down, the final pruning being deferred until the early part of next month. In the case of such Vines it is desirable to remove the old surface soil from amongst the roots carefully with a fork, taking advantage of this to raise any that are deep, laying them in fresh material near the surface. Good calcareous loam is the most suitable, with an admixture of crushed bones and other substantial enriching substances. If the soil be light add a sixth of clayey marl dried and pounded, or, if stiff, a similar proportion of calcareous gravel or old mortar rubbish.

Midseason Houses.—The Vines this season have had abnormal external conditions to contend against, and the weather has favoured red spider, thrips, and other pests of Vines. It has also been prolific of scorched leaves and scalded Grapes, also of spotted, all of which are avoidable by early ventilation, especially after a few days of dull weather and a return to bright. Mildew has also been rampant in some localities, and appears to thrive in droughty weather with moisture at night sufficient for germinating purposes. Mealy bug likewise has had a fine season, and is not by any means a stranger in vineries. All these pests and many others are sure to take advantage of their opportunities, therefore the only safe course is to pursue sound cultural management and keep a sharp look out for the enemy, which in one form or other ever attends the cultivation of Vines.

Midseason Vines delight in a good spread of foliage, every principal leaf having a full exposure to light and air, and with these formed under well ventilated conditions the wood is then stout and short-jointed, the leaves thick, leathery, and deep green in colour, the Grapes well nourished, colouring and finishing well, while the wood ripens kindly, being brown and hard, and the buds plump and promising for next season's work and cropping. Copious supplies of water and top-dressings of fertilisers have done wonders this season. Mulching light soils has materially aided results where water has been scarce. Even sewage water has been used with advantage. The recent rains have brought outside borders into a thoroughly moist condition. Watering inside borders must not be overdone, for an overstrong dose of liquid manure and needless waterings are the precursors of shanking, which has been no sinecure this season as regards giving employment to scissors in removing such berries.

Sustaining rather than stimulating food is desirable for Vines ripening their crops. Moderate supplies of nitrogen aid the Vines immensely in the late stages of swelling, but that from bone and blood manures and good all-round fertilisers is better than nitrates directly applied. Fire heat is often necessary to ripen midseason Grapes perfectly, but with ventilation day and night to insure a circulation of air; it may often be dispensed with in bright weather. The nights, however, are now getting cold, and fire heat may be necessary, though a good rest at night aids Vines wonderfully that are carrying heavy crops of Grapes. Enough fire heat should be given to maintain the temperature at 70° to 75° by day, and 60° to 65° at night, allowing 5° more for Muscats or similar varieties.

Late Houses.—The Grapes will now be nearing the colouring stage, and should be given every encouragement. Afford full supplies of water through a good surface mulching, sweetened horse droppings or stable litter freed from the straw and thrown in a heap, and when hot turned inside to outside, answering well when not more than 1 to 2 inches thick. All late Grapes require time, some more than others, but all ought now to be colouring, or close on, while no harm will come to those advanced therein as regards keeping afterwards. In order to effect perfection of berry in size and finish a fair amount of air moisture with a circulation of air constantly is imperative, diminishing the air moisture as the Grapes advance in colouring.

THE BEE-KEEPER.

Drones Still in Hives.

OWING to the dull sunless weather which prevailed during the early days of this month, drones were killed earlier than usual. It is quite a common thing to see the drone brood turned out of the hive early in the season when stores are short and bad weather sets in. Directly, however, the surroundings are more favourable eggs are again laid in the drone cells, and in due course are hatched. These are allowed to remain in the hive until they are no longer required, when they are at once turned out by the workers. There is one interesting fact in connection with this subject which bee-keepers will do well to observe. Although a colony of bees is well supplied with stores, if it is headed by an active fertile queen, the drones will be killed off within a few days of those not so favourably situated in a weak stock. But should the stock be queenless and short of stores the drones are allowed to remain in the hive and are not destroyed.

Drones in the hives after this date should be viewed with suspicion, as it is invariably a sure sign of queenlessness, or that the queen is old and decrepit. In either case they should receive attention. If on examination a queen is found with ragged wings, and only a few eggs are laid in various parts of the comb, dotted about and not all in a mass, the queen should be removed, and her place taken by a young fertile queen raised during the present season. If this is done, and the stock is fed with syrup, the drones will be turned out of the hive within twenty-four hours.

Surplus Queens.

In the majority of apiaries where several stocks of bees are kept there will at this season be several surplus queens on hand. We would again repeat the advice that young queens are as a rule the best. Although a queen has been prolific, and done well during the past season, she may be quite the reverse next year. In our own apiary we have two stocks which were re-queened last year. They wintered well, and were treated in exactly the same manner as other queens reared at the same time and under the same conditions. They have, however, not half the number of bees in their hive as other stocks have. It is difficult to account for this. But all bee-keepers have the same experience, as under the best management some colonies will always go ahead of the others.

As stated in previous notes, we always endeavour to raise young queens from one of our best stocks. It is interesting to observe the activity of the bees after a queen has been given to them, after being without one for several weeks. Instead of remaining on the floor board, dull and listless, they at once become active, and may be observed carrying in pollen the following day. If a stock has become weak through being queenless, it will be an advantage to strengthen it by introducing some driven bees, or by uniting two weak colonies. In the former case it will be an advantage to brush the bees off the combs on to the floor board and sprinkle them with flour. The driven bees should be treated in the same manner; they will then unite without the loss of a bee.—AN ENGLISH BEE-KEEPER.

Trade Catalogues Received.

Cooper, Taber, & Co., Ltd., Southwark Street, S.E.—*Wholesale Bulb Catalogue.*

J. Craven & Co., Manners Street, Wellington, New Zealand.—*Seeds.*

Dobbie & Co., Rothesay.—*Bulbs.*

Dobie & Mason, Oak Street, Manchester.—*Bulbs.*

W. Fell & Co., Hexham.—*Forest Trees.*

Hogg & Robinson, Dnblin.—*Holland in Ireland—Bulbs.*

Little & Ballantyne, Carlisle.—*Bulbs.*

W. Paul & Son, Waltham Cross.—*Bulbs and Winter Flowers.*

J. R. Pearson & Sons, Lowdham, Notts.—*Bulbs.*

Sutton & Sons, Reading.—*Bulbs.*

J. Veitch & Sons, Ltd., Chelsea.—*Bulbs.*



All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing subjects them to unjustifiable trouble and expense.

Preserving French Beans and Scarlet Runners (*Ignoramus*).—The beans or pods should be gathered when of useable size, and when dry, placing in an earthenware jar, first placing in a layer of salt, then a layer of pods, and so on until the jar is filled, enough salt being used on each layer to cover the beans, finally placing on the lid. The beans should be washed in water before cooking, so as to remove some of the salt. This is a plan we have seen practised successfully, but there may be other methods respecting which we should be obliged for information.

Hæmanthus (*J. C. S.*).—The species of this genus are very interesting and beautiful bulbous plants. Scape, involucre, umbels, and stamens all add their quota to the interest and beauty of these curious flowers, which in some of the species are gathered together into closely compact umbels, and present in the mass a sort of filamentous appearance. One of the most commonly grown is *H. sanguineus*, flowers scarlet on dense heads. The flowers appear before the new growth, and it is important that after flowering the plant have a period of growth, to be followed by one of rest. The *Hæmanthus* belong to the natural order *Amaryllideæ*, but are very different from *Amaryllis*.

Anthurium Scherzerianum (*C. C.*).—The sport forwarded is uncommon, but not unique, similar ones having been recorded at rare intervals. The same thing occurs occasionally in several other *Arads*, and has often been noted in *Richardia africana*. When additional spathes are produced they usually resemble the ordinary spathes, rarely, as in the present case, taking the form of a leaf. In Masters' "Vegetable Teratology," page 357, reference is made to increased number of stipules, spathes, &c., among other examples *A. Scherzerianum* being cited as occasionally producing leaf-like spathes, in addition to the true ones. The production of additional spathes appears to be pure chance, the same thing rarely, if ever, occurring annually on the same plant.

Maggots in Celery Leaves (*M. E. R.*).—The leaves are destroyed by a leaf-mining maggot, hatching from eggs that are deposited by a small fly known as the Celery fly. These leaf-mining insects are very destructive. We have seen them destroyed by a mixture of softsoap and petroleum prepared as follows:—Take 2 ozs. of softsoap and half ounce of washing soda, put these into a 2-gallon stone bottle, and pour upon them 1 gallon of boiling rain or soft water; stir till the whole is thoroughly mixed, then add 4 ozs. of petroleum, stir and shake again, then stir up the bottle with another gallon of boiling rain water. When cool strain through muslin or other suitable material, and apply with a syringe or spray distributor in the evening, not in the morning, as if the sun shines on the plants before they are dry they may be injured.

Ice Plant Culture (*J. P. C.*).—Ice Plants may readily be raised from seeds, which should be sown early in April in rich light soil, barely covering the seeds with fine soil, then water gently, and place the pots near the glass in a house or frame in a temperature of 60° to 75°. The soil must not be kept more than moist, and air must be freely admitted, otherwise the plants will damp off. Pot them singly in 3-inch pots when they can be handled, place them in a gentle hotbed, be careful not to overwater, and shade them from bright sun for a few days until they are again established, then admit air freely, and water only to keep the plants from flagging. Harden well, and plant out early in June in rich light soil, in an open warm situation, watering at planting. Any light loamy soil, with a free admixture of leaf soil or well-decayed manure, will grow them well.

Increasing *Lilium candidum* (*Amateur*).—To increase the stock of these in pots lift bulbs from the open borders directly they have flowered. Good sized bulbs may be potted singly in 6 and 7-inch pots, or four may be placed into 10-inch pots. Give liberal drainage, and employ a compost of good fibrous loam three parts, one part of leaf mould, one-seventh of decayed manure, and a liberal quantity of coarse sand. The old flower stems may be cut off close to the top of the bulbs. Press the soil moderately firm into the pots, and cover the bulbs with 1 inch of soil. They will do outside, but start better if they can be placed in cold frames, so that they may be protected from heavy rains until they commence rooting and growing again, which will be in a very short time. When this takes place they will be as well outside as in frames, only be careful to house them before the approach of frost. Considerable injury is done to this Lily if the bulbs are kept out of the soil for any length of time, as it is natural for it to commence growth at once after flowering.

Fungus under Poplar Tree (W. H.).—The fungus is a *Boletus*, but whether the edible species or not it is impossible to say from the portion sent. A complete fresh specimen with the essential characters manifest is necessary for determining the matter. As some of the *Boleti* are poisonous it will be prudent to exercise caution in the use of the specimens you may gather from under trees.

Propagating *Lithospermum fruticosum* (H. D. T.).—Cuttings of the half-ripened wood, or the points of the shoots of the current year, having their bases rather firm, trimmed of their lower leaves, and the base of the shoot cut with a sharp knife below a joint, should be inserted half or two-thirds their length in a compost of sandy peat one-third and silver sand two-thirds, the surface of the soil in the cutting pot being covered with an inch of the latter. The pot or pan containing the cuttings should be placed in a cold frame or pit, and kept close, moist, and shaded from the sun until the cuttings are rooted. The sand must not be kept very wet or the cuttings will damp off. The cuttings will root much sooner if placed in mild bottom heat.

***Pleione lagenaria* (P. B. B.).**—This Orchid is sometimes known as the Indian Crocus. The pseudo-bulbs of *P. lagenaria* (fig. 50) are distinct from any other species, being flask-shaped with a peculiar overlapping neck. The flowers are large and solitary; sepals and petals narrow, deep rose colour; lip very large, waved at the margins, white variegated with yellow and rich purple. It flowers profusely during the depth of the winter. They are mostly grown in pots, but succeed equally well on blocks; in the latter way they require more sphagnum about them than most plants grown in a similar manner. When grown in pots, which is undoubtedly the best method, they must have ample drainage. The soil should be fibrous peat, sphagnum moss, and rich leaf mould in equal parts, adding a small portion of silver sand; but the curious little pseudo-bulbs should not be elevated above the rim of the pot, as in the usual method of potting Orchids. During the growing season moderate heat and an abundance of moisture are necessary to the development of large strong flowering pseudo-bulbs; after these are formed they may be removed to a cool house and kept tolerably dry until the flower buds begin to show themselves at the base of the old bulbs, when additional heat may be applied with advantage.

Leaves of Vines Diseased (Croydon).

—The very small leaves are notable for the pale, hairy growths, once called *Erineum vitis*, in patches on the under side of the leaves. The *Erineum* is caused by a mite named *Phytoptus vitis*, which exists under four forms: first, as small larva with two pairs of legs, and lies hidden in the little felted nests on the under side of the Vine leaves. In the second stage it becomes six-legged, and passes the winter amongst the nest hairs on dead leaves and beneath the bark on canes and rods. In the spring the six-legged creature gets another pair of legs, ascends the Vines, and selects the lower surface of the young leaves, which it pierces and there deposits its eggs. On each affected spot a dense growth of leaf-hairs appears, forming a protection for the eggs and the little mites which soon emerge from them. The effect is to distort and ruin the leaves. On the upper surface of the leaf, and corresponding to the felted masses of cream-coloured or brownish hairs on the under side, there are numerous large green swellings, giving the foliage a very singular appearance. The pest is somewhat difficult to eradicate, but good results attend spraying with methylated spirit, diluted about one-half with clear rain water, directing the spray upwards so as to coat the foliage on the under side, and of course wet the nest hairs. In some cases the methylated spirit may be used undiluted, and is of course most effective, but it is advisable to experiment on a few leaves and ascertain a safe strength. Picking off all the affected leaves instead of letting them fall naturally and burning them may be mentioned as a perfect cure. Fallen leaves should also be burned, and the Vines cleansed and dressed, removing the surface of the soil and supplying fresh compost. In the box along with the Vine leaves was a weevil, *Rhynchites Alliarie*, one-eighth to one-sixth inch long, colour deep blue or shining green, thorax finely pitted, and has a smooth dorsal line. The larvae live in the stalks and midribs of the leaves of many fruit trees. The best remedy is to capture the beetles by shaking them down on cloths and destroying them, or trays tarred inside may be used. Conspicuously injured leaves and young growths should be removed and burned as soon as convenient.

Liquid Weed Killer—Glass-stoppered Bottles (T. G. M.).—If you write to any of the horticultural sundriesmen whose advertisements appear in the pages of the *Journal of Horticulture*, you will soon get what you require.

***Salvia patens* Buds and Flowers Falling (H. D.).**—The most probable cause of the flowers (never of long continuance individually) dropping is a deficiency of water at the roots and keeping the plant at a distance from the glass in a conservatory or in a badly ventilated part. Supply plenty of water, and give liquid manure once a week; place in the lightest and coolest situation, and syringe the foliage frequently, but not the flowers. The plant is very liable to be attacked by red spider and thrips when grown under glass.

***Brodiaea ixioides* (B. T.).**—You may know this plant as *Calliprora lutea*; it is very distinct in appearance and colour from the other members of the genus *Brodiaea*; but structurally the difference is slight. It produces slender flower stems from a foot to 18 inches high, bearing a large umbel of flowers on slender pedicels at the top, which are individually about an inch across, of a deep golden yellow colour, with a brown medial vein in each segment of the perianth. Generally more than one scape is sent up from each bulb, and as they are many-flowered it is a neat and extremely pretty bulb for the hardy flower garden. The bulbs thrive remarkably well in a warm position, well drained, in light rich soil near London, but when planting should be surrounded with sand and ashes from burnt garden refuse.



FIG. 50.—PLEIONE LAGENARIA.

Plantains on Lawns (Tyro).—If care be taken the plants and roots may be lifted with a daisy fork, and any of the latter that break off near the top can have sulphuric acid (oil of vitriol) dropped on the part, and it will kill the root. Our plan in using it is to clean out an old blacking bottle, tie a piece of wire round the neck so as to form a handle to hold the bottle, which makes all safe in handling, then make notches at the end of a stick about as thick as the finger, then notches all round, and about 1 inch up the stick; some of the sulphuric acid being put in the bottle apply the notch end of the stick and it will retain sufficient of the acid to apply to each Plantain, putting it on the root. It will kill the Plantain by applying it to the centre of each plant; but we prefer to pick them up. Care must be used with the sulphuric acid, not trusting it to a careless person.

Names of Fruits. — Notice. — We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular,

and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (A. J. P.).—1, Stirling Castle; 2, Mère de Ménage; 3, Mr. Gladstone. (Prune).—As we have stated before Plums can only be named when the specimens are accompanied by examples of the young wood of each. Pears, 1, Beurré Gifford; 2, Citrou des Carmes; 3, Jargonelle. (C. G. M.).—1, Pear Williams' Bon Chrétien; 2, Apple Fearn's Pippin. The remaining specimens are not sufficiently developed for identification. (H. H. F.).—The Pear is Doyenné d'Été and the Apple Lane's Prince Albert. (Tom B.).—1, Red Astrachan; 2, Devonshire Quarrenden; 3, Beauty of Bath; 4, Mr. Gladstone.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*P. H.*).—1, *Lælia elegans*; 2, *Ixora Duffi*; 3, *Pavonia grandiflora*. (*F. W. W.*).—1, *Catalpa bignonioides* (*syringæfolia*), of which we hope to give an illustration, with letterpress, in an early issue. (*Fern Lover*).—1, *Blechnum brasiliense*; 2, *Anthurium variegatum*; 3, *Kalosanthes coccinea*; 4, *Adiantum cuneatum*; 5, *A. concinnum*; 6, *Pteris tremula*. (*H. J. R.*).—1, *Hyacinthus candicans*; 2, *Heuchera sanguinea*; 3, *Trollius europæus*; 4, *Chrysanthemum maximum*; 5, *Rubus odoratus*; 6, *Lonicera involucrata*. (*O. B.*).—*Olearia Haasti*; the Fern is *Pteris longifolia*. (*W. E.*).—1, *Cratægus coccinea* variety; 2, *Kalmia angustifolia rosea*; 3, *Kerria japonica*; 4, *Campanula lactiflora*; 5, *Pernettya mucronata*; 6, *Lencothoe Catesbœi*. Only six specimens can be named in one issue.

Covent Garden Market.—August 22nd.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, $\frac{1}{2}$ bushel ...	2	6 to 5	Greengages, box ...	0	4 to 1
Apricots, box ...	0	8 1 3	„ sieve ...	4	6 6 0
Cherries, $\frac{1}{2}$ bushel ...	5	0 12 0	Lemons, case ...	10	0 30 0
„ $\frac{1}{4}$ bushel ...	3	0 6 0	Melons, house, each ...	2	0 3 0
„ cooking, sieve ...	5	0 6 0	Oranges, case ...	10	0 25 0
Currants, sieve ...	6	0 7 0	Nectarines, doz. ...	1	6 9 0
„ red, sieve ...	4	0 6 0	Peaches, doz. small ...	1	0 2 0
Figs, green, doz. ...	1	6 3 0	„ doz., good size ...	6	0 9 0
Gooseberries, ripe, $\frac{1}{2}$ bushel	2	0 2 6	Pines, St. Michael's, each	3	0 8 0
„ green, $\frac{1}{2}$ bushel	4	0 7 0	Plums, $\frac{1}{2}$ bushel ...	3	6 5 0
Grapes, black ...	0	6 2 6	Raspberries, 12 lbs. ...	3	0 6 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1	6 to 2	Leeks, bunch ...	0	8 to 0
Beans, Long Pods ...	2	0 3 0	Mint, green, doz. bunches	2	0 0 0
„ French, sieve ...	2	0 3 0	Mushrooms, lb. ...	1	3 1 6
„ scarlet, sieve ...	2	0 3 0	Mustard and Cress, punnet	0	2 0 0
Beet, red, doz. ...	0	6 1 6	Onions, Egyptian, bag ...	4	0 0 0
Cabbages, tally ...	3	0 5 0	Parsley, doz. bunches ...	2	0 4 0
Carrots, doz. bunches ...	2	0 3 0	Peas, English, per bushel	1	6 5 0
Cauliflowers, doz. ...	3	0 4 0	Potatoes, cwt. ...	5	0 10 0
Celery, bundle ...	1	0 1 9	Shallots, lb. ...	0	2 0 3
Cucumbers, doz. ...	2	0 4 0	Spinach, bushel ...	2	0 6 0
Endive, doz. ...	1	6 0 0	Tomatoes, English, doz. lb.	3	0 5 0
Herbs, bunch ...	0	2 0 0	Turnips, doz. ...	4	0 6 0
Lettuce, doz. ...	1	0 2 6	Vegetable Marrows, doz. ...	0	9 1 6
„ Cos, score, from	0	6 2 0			

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	1	6 to 2	Marguerites, doz. bnchs.	2	0 to 4
Carnations, 12 blooms ...	1	0 2 0	„ Yellow doz. bnchs.	2	0 4 0
Cattleyas, per doz. ...	6	0 12 0	Odontoglossums ...	3	0 4 0
Eucharis, doz. ...	2	0 3 0	Pelargoniums, doz. bnchs.	2	0 4 0
Gardenias, doz. ...	1	0 2 0	Roses (indoor), doz. ...	3	0 4 0
Geranium, scarlet, doz. bnchs.	4	0 5 0	„ Red, doz. ...	1	0 2 0
Lilium lancifolium album	2	0 3 0	„ Safrano, doz. ...	1	6 2 0
„ „ rubrum	2	0 3 0	„ Tea, white, doz. ...	2	0 3 6
„ various ...	2	0 3 0	„ Yellow, doz. (Perles)	1	0 2 6
Lily of the Valley, 12 bun.	8	0 18 0	„ English:—		
Maidenhair Fern, dozen			„ La France, doz. ...	1	0 2 0
bunches ...	2	0 4 0	Smilax, bunch ...	2	0 4 0
Mignonette, doz. bunches	1	0 2 0			

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12	0 to 24	Foliage plants, var., each	1	0 to 5
Arbor Vitæ, var., doz. ...	6	0 36 0	Geraniums, scarlet, doz. ...	6	0 10 0
Aspidistra, doz. ...	18	0 36 0	„ pink, doz. ...	8	0 10 0
Aspidistra, specimen ...	15	0 20 0	Hydrangeas, white, each	2	6 5 0
Azaleas, various, each ...	2	6 5 0	„ pink, doz. ...	12	0 15 0
Boronias, doz. ...	20	0 24 0	„ paniculata, each	1	0 3 6
Cannas, doz. ...	18	0 0 0	Lilium Harrisii, doz. ...	8	0 18 0
Orotans, doz. ...	18	0 30 0	Lycopodiums, doz. ...	3	0 6 0
Dracæna, var., doz. ...	12	0 30 0	Marguerite Daisy, doz. ...	8	0 10 0
Dracæna viridis, doz. ...	9	0 18 0	Mignonette, doz. ...	8	0 12 0
Erica various, doz. ...	8	0 18 0	Myrtles, doz. ...	6	0 9 0
Euonymus, var., doz. ...	6	0 18 0	Palms, in var., each	1	0 15 0
Evergreens, var., doz. ...	4	0 18 0	„ specimens ...	21	0 63 0
Ferns, var., doz. ...	4	0 18 0	Roses, per doz. ...	6	0 18 0
„ small, 100 ...	4	0 8 0	Stocks, doz. ...	8	0 12 0
Ficus elastica, each ...	1	6 7 6			



The Outlook—Is it Good?

WE have before us the completed crop reports published by the "Times" and the agricultural journals, and after a little study of them we are enabled to arrive at a fairly accurate conclusion as to the productiveness of this season's crops. The grain crops are easy to estimate, as they are ready to secure, and there is not much danger now that the root crops will vary to any great degree from the various estimates. The period of very wet and stormy weather which occurred simultaneously with the publication of the reports must have done considerable damage to Barley and Oats, and as regards the earlier districts the reports must be accepted with considerable modification. We know personally of very serious damage to Barley, both cut and standing; the former being badly sprouted, and the latter necked, as well as very much twisted about.

Of one thing we are convinced—i.e., that the reports may be accepted as being representative of the most intelligent and advanced opinion of the farmers of the various counties, the names of those who contribute them being almost, if not altogether, the best possible selection that could be made. After a close analysis of the collective wisdom of these experts, it is found that 52 per cent. give Wheat as an average crop, 8 per cent. report it as over average, and 40 per cent. make it below the average. Few speak of either good or bad crops; and as regards the yield of grain, we have concluded the Wheat crop to be nearly up to the average, which might actually be reached if the report of the threshing machine is quite satisfactory. We fear, however, that the ears are not long enough, or sufficiently wide-chested to pleasantly surprise farmers in that way. That there is not a heavy crop of Wheat straw has been evident since the spring, and this view is entirely borne out by the reports, many of which speak of shortness, but none of length of straw.

Turning to Barley, we acknowledge a surprise. So much of this crop was sown under adverse conditions, and the weather did so little to encourage growth until far into summer, that an average crop was hardly looked for. Such a crop, however, we must take to be the Barley crop of 1900, for although 30 per cent. of the reports give it as below the average as compared to 22 above, the latter, as a rule, speak of it in such glowing terms that these favoured districts should make up the full deficiency of those below average. The straw also is better spoken of than that of Wheat, some reports saying, "Straw longer than it has been for years." It is to be feared that the good promise of these crops may not be entirely fulfilled if they have been subjected to a fair share of the storm and flood of last week.

The Oat crop is not so bad as last year, but the records are very discouraging, particularly so as the bad accounts come in many cases from peculiarly Oat growing districts where it is the chief cereal, and an important item in the economy of the farm. No less than 56 per cent. of the reports are below average, and the terms "bad," "very bad," "much under," constantly occur, the straw being spoken of as very short and light, in fact the failure of the crop seems to have been accomplished in its early stages; 34 per cent. proclaim the crop an average one, and 10 per cent. over average; of these but two are couched in at all glowing terms, and four of the 10 per cent. come from one county, Devonshire. It is very noticeable that winter Oats are all very favourably spoken of, as also are the earliest sown spring crops. Considering that winter Oats are an almost unvarying success, we wonder that they are not more largely grown. They are

a very certain crop on any soil of average strength, and they often make a good price when thrashed early in August when Oats are scarce. The early farmer bird often gets a fat worm in this way.

Beans and Peas are not so much grown as they once were; they appear generally to be below the average, especially Peas, which have suffered much from drought.

The early Potatoes seem to have suffered from drought also, but the main crop varieties as a rule are well spoken of, and promise, unless disease makes an unwelcome appearance, to prove a full average crop. The recent rains have been just what Potatoes wanted, and all that they required to bring them to maturity. We imagine that reports on this crop now would rise to a very high standard. As the British crop, when a full one, is more than equal to the demands of the home markets, we venture to forecast a season of low prices.

Of the root crops Turnips, though the prospect is below the average, are much more promising than twelve months ago—25 per cent. of the reports are below the average, and seventeen above. Many of the adverse ones gave hope of a fair crop in the event of sufficient rain falling. As the latter contingency has been fulfilled the former should be also. Mangolds are good, almost without exception, and will be of great value whatever the Turnip crop may prove to be.

The virtues of early sowing and good farming are once more brought to our notice, as the following extracts will show. "Oats above average where seed was carefully selected." "Early spring sorts a fair crop, late sown have suffered from drought." "Oats, fair crop where sown early." "A good average with the exception of some late sown." Turnips: "Early sown sorts which escaped the fly are very good; late sown poor." Wheat "sown on well farmed lands in October nearly an average; where sown a month or six weeks later will be much under average." "Barley good average where sown early and the land well done." "Wheat ears seem well filled up and fairly good where the land is farmed well, otherwise very thin."

Taking the country as a whole we notice that the northern counties stand in a much more favourable position than the south, and particularly in regard to the condition of their root crops. This is no doubt owing to the moister conditions which have favoured the north of England, though these same districts may have suffered most from the late tempestuous weather, and therefore may have lately lost some of the advantage which they had gained.

Reviewing the year's crops as a whole, and the farmer's prospect of paying his way, we think there is cause for neither regret nor rejoicing. The crops are fair, if not good, and if harvest weather be now favourable to secure them in the best possible condition without serious waste, it will go far towards securing a fair market for them. Price is the great factor, and if the farmer can make sure of 30 per cent. per quarter for his Wheat and Barley, and 20 per cent. for his Oats, we think he will have a fair year.

Prospects are very bright for holders of live stock, for keep must be plentiful, and there is not likely to be a slump in meat for some time to come. The price of wool is the one blot in the escutcheon.

Work on the Home Farm.

Last week we wrote after a deluge but in hope of finer weather. Two more pouring wet days seemed to exhaust the clouds, and since then the weather has been beautiful.

Very great headway has been made since harvest work again became possible. Binders are at work in every direction and carting has already commenced. So far we have not seen a field of corn tied up by hand, and are looking out for one as a curiosity. There are rumours of scythes being at work, but it is only a case where a crop is very heavy and badly laid that a farmer allows himself to think of hiring mowers even if he can get them. We hear that Irish labourers are with us, but have not seen one yet. What should we do now without binders? Crops are cutting up light on the whole; the stooks are far apart, and

it would require no great athlete to clear one at a bound. The stacks which we have seen are small in proportion to the acreage cleared, and the leading will not be a very tedious job.

Farmers will be anxious to get their corn safely in the stack, but in this season of short string-bound sheaves they must not get it too soon, neither must they be careless how they put it together in the stack. Men are scarce, and scarcer still are good stackers. It is of no use making a stack pretty in shape if it will not turn rain, and the middle must be well filled in from the first. A well made stack always slopes well from the centre and is rather insecure for men to stand on who are not accustomed to the work. This is especially the case when it is being roofed up, for then the man standing at the eaves taking sheaves from the teamer should not be able to see the man above to whom he forks them. A roof well made will require little thatching.

In relation to the danger of stacking, are all farmers aware that they are responsible for accidents to their men? and though a farm labourer's life is not a risky one, the stacking and thatching periods are times when a slip may lead to serious consequences both to master and man. Insurance may be had for a trifle, and we commend this to our readers.

Lambs in some parts are as usual showing signs of weak health. The wet weather and sudden changes of temperature have had a bad effect. Lung disease is prevalent, some farmers have lost 10 per cent. and wholesale drinking is the rule rather than the exception. A "vet." who has a large practice amongst lambs tells us that the disease sets in earlier on some farms than others, and that when Mr. A calls him in he knows Mr. B will send for him in about a week. Mr. B. being duly warned can now drench his lambs as a preventive and so ward off the attack altogether.

Kentish Hop Prospects.—Many of the Hop grounds in Mid-Kent, which is the centre of the Hop-growing industry, suffered greatly from the gale of a fortnight ago, and it is feared that the Hop crop generally in Mid and West Kent will not exceed half of last year's yield. In some grounds the results will scarcely repay the expense of picking. In most of the fields work will commence a week later than last season.

Harvesting by Moonlight.—The unusual sight of harvesting by moonlight has been witnessed in South Lincolnshire. Labour is so scarce that the men cannot be spared to gather in their own allotment crops during the day, and some have consequently gathered them by the light of the moon. Many men have been seen working in the fields until nearly midnight. On some farms, too, harvesting has also been carried on at night.

A Coming Insecticide.—Professor L. H. Bailey says:—Arsenite of lime has the threefold advantage of being cheap, the amount of arsenic is under perfect control and it does not burn the foliage. It is made by boiling together for forty-five minutes 1 lb. white arsenic, 2 lbs. fresh lime, 1 gallon water. This may be kept in a tight vessel and used as desired. Thoroughly stir the material before using. For most insects 1 quart of the above per barrel will be sufficient. Arsenite of lime is insoluble in water and will not injure the foliage of any orchard fruit at this strength. This insecticide is growing in popularity. Some green dye stuff should be mixed with it to prevent the ever present danger of mistaking it for some other material.

Foot and Mouth Disease in Wales.—The Board of Agriculture is taking extraordinary precautions to prevent the spread of foot and mouth disease from Llewellyn Farm, Flintshire. Everyone leaving the farm has to put his boots in carbolic acid; and recently, after eight Chester butchers had been for some hours engaged in slaughtering the whole of the live stock on the farm—twenty-five head of cattle, twelve pigs, and sixty sheep—they were required to divest themselves of all their clothing, and the garments were then burnt, and the men supplied with fresh suits. Meanwhile the slaughtered stock was buried in a trench 7 feet deep. An area in the parish of Rhuddlan, Flintshire, has been declared to be infected with foot and mouth disease.

Farm Crops Destroyed by Fire.—The Chester Fire Brigade were engaged on Friday in extinguishing a fire on the farmstead of Mrs. Willis of Hatton, near Chester, when damage was done estimated at £2500. The brigade found the entire range of farm buildings, 120 feet long, fully ablaze, and before the flames could be extinguished tons of hay and fodder of this season's crop and many valuable implements and farm buildings were completely destroyed. The premises of Everitts, Ltd., corn and coke merchants, Oulton Broad, near Lowestoft, consisting of capacious granaries, in which were stored quantities of corn, were destroyed on Friday morning by fire, together with the elevator and engine house. The damage is estimated at over £7000.

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BICOLOR GRANDIS.—Petals snowy white, large and broad, trumpet large and full yellow; late flowering. Strong flowering Bulbs, per 1000, 120/-; per 100, 13/-; per doz., 1/9. Extra strong selected Bulbs, per 1000, 190/-; per 100, 21/-; per doz., 3/-.

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Some sorts of Bulbs noted out Price Lists.	Per 100.	1000.
Hyacinths in fine mixture, for bedding or forcing	s. d.	s. d.
	11 6	112 6
Hyacinths, single, first size, named, in several leading sorts, red, white and blue varieties, equal quantities, my selection	20 6	—
Single early Tulips, in the finest mixture	1 10	16 8
Double early Tulips, in the finest mixture	2 4	22 6
Duc Van Thol Tulip, mixed, excellent for early forcing	2 6	20 0
Sparaxis, in mixture	0 8	6 0
Triteleia uniflora, pure white, very fragrant	1 6	—
Ixias, in the finest mixture	0 6	5 0
Crocus, first size, in the finest mixture	1 2	10 0
Crocus, second size, in the finest mixture	0 7	5 0
Crocus, yellow, third size	0 6	4 2
Spanish Iris, in the finest mixture	0 7	5 0
Iris Kämpferi, mixed Japanese varieties	5 0	40 0
Iris sibirica, all sorts, in mixture	4 0	40 0
Montbretia crocosmiflora, orange scarlet	1 6	—
Narcis, Double incomparabilis, primrose	1 6	14 0
Narcis, Single Van Sion, yellow trumpet	3 0	29 2
Narcis, Stella, white, yellow cup	1 4	12 6
Narcis, bicolor princeps	2 6	23 4
Gladiolus Marie Lemoine, cream, blotches purple	2 0	19 2
Gladiolus Brechtleyensis, deep scarlet	2 6	20 0
Scilla Sibirica, intense blue	1 8	15 0
Hyacinthus candicans (Galtonia) white	5 0	45 10
Snowdrops, Galanthus Elwesii, giant flowered	1 10	15 0
Tritoma Uvaria (Red-hot Poker)	14 6	—
Lilies, in fine mixture	12 0	120 0
Narcis, Pheasant's-eye (poeticus)	1 2	10 0
Single Anemone, The Bride, pure white	1 8	15 0
Single Anemones, in the finest mixture	1 8	15 0
Ranunculus, French varieties, mixed	1 0	9 0
Ranunculus, Persian varieties, mixed	1 0	9 0
Gladiolus Colvillei alba, pure white	1 2	10 0

250 Bulbs of the same kind will be charged at the 1000 rate; 25 at the price per 100; 6 at the price per 12.

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Journal of Horticulture.

THURSDAY, AUGUST 30, 1900.

Strawberries in 1900.

IN the early winter there were misgivings among many Strawberry growers consequent on the drought of last year and its prospective effects on the plants and autumn planted runners. The grounds for such fears have in some cases been realised, and in others the reverse. There is no gainsaying the fact that the Strawberry crop of the year has been a variable one, and though some plantations have been entirely satisfactory, there have been many complaints both among private and market growers.

The severity of the winter and extremely cold spring raised an unfavourable prospect for the year. In the winter the foliage was badly damaged, and many plants succumbed where debility was set up in the previous autumn for want of rain, and the coldness of the spring made growth late and poor. By flowering time, however, a good change had taken place, and the desolation of the past had changed to healthy growth and blossom, quite exceeding all expectation. Realisation did not prove equal to the hopes thus raised, frost and drought in turn bringing in their wake unfavourable consequences. The former robbed the grower of his first fruits, a loss enhanced by the fact of these early berries having a greater monetary value, as well as being larger in size and weight. Under ordinary conditions there was no fruit picking until the end of June. On warm soil and sunny slopes there was, of course, the usual advance over others less favourably situated. It is surprising what influence sloping ground has on ripening Strawberries. At Marston, near Frome, whence Mr. Iggulden has given readers of our Journal so many useful lessons, I found Strawberry picking almost at its height, when in my own case I had scarcely a ripe berry, and this notwithstanding a clay subsoil compared with a deep sand bed here, and on almost level land. A garden that slopes gently to the south has many advantages

During FIFTY-TWO YEARS the "JOURNAL OF HORTICULTURE" has been written by Gardeners for Gardeners, and in its principles, its practice, and its price it still remains the same. One alteration is perhaps, however, necessary. Our modern methods of production have rendered the price old-fashioned, and hence in order to meet the wishes of the present generation of Gardeners the "JOURNAL OF HORTICULTURE" will hereafter be sold for TWOPENCE instead of Threepence.

over one falling in the opposite direction, or that quite level, and this becomes, perhaps, more distinct in Strawberry growing than in the majority of other crops. On the clayey soil of Marston Strawberries did not feel the dire effects of the previous summer's drought so keenly, hence fuller crops were given. In our case runners and older plants alike were freely cropped, and some forced plants put out last year bore an exceptionally heavy crop this. The loss from frost at flowering time was supplemented towards the end of the season by the failure of the berries to swell because of the lack of root moisture. The supply terminated very abruptly from this cause, where old plants were depended on for late bearing.

The value of early layering, either in pots or in the open ground, was clearly demonstrated in the extent of crop produced by young beds this summer. Those layered and planted early were much more satisfactory than others put out later. The nature of the weather and demands on labour at this period make it a difficult matter to get a large quantity layered for outdoor planting at the same time as the forcing stock has to be prepared, but any effort made to do so is well repaid. The weather has an influence extending over such a lengthened period as affecting Strawberries; indeed, I do not think there is another fruit crop so susceptible to injury. Winter and spring frost, and summer drought, are all more or less damaging in their effects.

The custom of planting Strawberries after Potatoes is very general, and I must admit that the practice has had a favourable foothold with me until recently. My opinion now has changed, and another rotational course is adopted. I have found that in lifting Potatoes in summer when the soil is very dry there are sure to be some small ones left in the ground, and no matter how small these may be they will grow when spring comes round. Being deeply buried, too, in the course of digging, they are not easy to pull up without disturbing the Strawberry plants. Thus they become a nuisance that only a change of rotation can remedy so far as it affects Strawberry culture. The clearance of the early summer Peas affords an ideal site for Strawberries, and gardeners as a rule prepare as well as circumstances will allow for their Pea crops. Strawberries when treated on the triennial principle need clean ground, and Potato "ramblers" can be more effectively dealt with when some other crop follows. Although Strawberries are essentially surface rooting they enjoy a deeply dug or trenched bed, and a change of site is as important with them as with Peas. When time permits, trenching, if only 16 inches deep, has a marked effect on both the crops named.

In regard to varieties, my selection grows smaller rather than larger each year; several that have been under two and three years trial have now been discarded. It is true that for ordinary household or market purposes a large selection is totally uncalled for; at the same time there is wisdom in giving trial to unknown sorts, with a view to ascertaining whether something may be found to supersede existing favourites. Nor is one year's trial sufficient to establish a just opinion in all cases. Had I resolved on such a brief trial to discard what appeared unsuitable, I should probably have lost what has since proved my mainstay—namely, Laxton's Latest of All; and exactly the same loss would have resulted in the case of Laxton's Leader. These have "come to stay" until something better supersedes them, and I am confident the time is not yet when they will have ceased to exist. Leader for a second early is excellent in every respect, and I am strengthened in this opinion by a favourable report from the market fields. Both are very neat growers, and thus require less room than older sorts in planting. I had formed a good opinion of Leader last year; it is strengthened this.

Occupying a portion of the same border, and all of the same age, were Gunton Park, Dr. Hogg, Georges Lesuricr, and Monarch; these are now "struck off the rolls." Royal Sovereign is cultivated only for forcing. Sir Joseph Paxton and Vicomtesse Héricart de Thury are retained for preserving purposes. Eleanor, Elton Pine, and Alice Maude have received due trial for late use, but have not satisfied, and thus Leader and Latest of All are left in greater solitude than in any previous year as regards variety. Trials of newer ones, however, are

not relaxed, for the possibility still remains of finding a fitting companion if not a rival for either. If this were not so it would be useless for hybridists to continue to hope and work for greater developments. A neat grower like Noble, with the quality and firmness of Leader or Royal Sovereign, is still needed for very early picking, and if such exists it should be made known for the benefit of present-day planters, so that a trial can be instituted.

The hybrid alpiners, of which St. Joseph is a type, are slowly stepping up. The time will come, no doubt, when they will be more freely cultivated by those having the glass accommodation. No one could fail to be highly impressed with their value could they see the excellent and extensive collection of plants fruiting so freely at Gunnersbury House in the autumn. Mr. Hudson has made a special study of these alpine varieties, and his efforts will materially affect their future. Strawberries for the autumn shooting parties would become at once popular; but only those exceptionally favoured can hope to imitate the Gunnersbury examples, because there the structures devoted to them are so excellently adapted to the purpose. Any gardener would be proud of such a wealth of Strawberry fruit and blossom in October as that seen last year by visitors to Gunnersbury.—W. S., Wilts.

Autumn-flowering Heaths.

THE brilliant effects made by several British Heaths are familiar to everyone when growing in a natural state, and few more beautiful sights are imaginable than a hill side, common, or stretch of moorland luxuriantly clothed with large patches, acres in extent, of red or purple-flowered Heather, intermixed with its usual companions, Bracken and Gorse, and sometimes tufted patches of *Vaccinium*, the deep green of the Gorse, the stately fronds of Bracken, with foliage turning from green to golden and brown, or the green cushion-like masses of *Vaccinium* helping in no slight degree to complete one of Nature's most pleasing pictures, and impress on us the value of many British plants, which we are too apt to cast aside for less showy exotic cousins.

Though it is impossible in most gardens to grow these plants in large quantities, patches here and there in gardens free from lime will be found very attractive during late summer and early autumn, a time when there is a dearth of flowering shrubs; while in large gardens, where wild gardening is practised, they will be found among the most useful plants. For the rock garden groups are indispensable, the brilliant coloured flowers making vivid patches of colour among the decaying foliage of other plants.

The most useful of the groups are *Erica cinerea*, found in many parts of the British Isles and Western Europe. A plant that grows in dwarf, compact masses, and exhibits a great diversity of colour, deep purple, red, rose, and white, being the most distinct. From its neat habit it is a very desirable plant for a front place on the rockery or other conspicuous place. *E. Mackai*, of somewhat loose habit, bearing heads of delicate pink blossoms, occasionally found in Ireland. *E. stricta*, a S. European species, forming large, upright bushes thickly clothed with pink flowers. *E. tetralix*, widely distributed from Britain to Russia, and found with pink, red, and white flowers. *E. vagans*, the Cornish Heath. Of this there are several varieties, differing from each other in size of inflorescence and colour, the best being *E. vagans* var. *grandiflora*. It often grows to a height of 2 feet and more, and flowers on the moors in the S.W. counties at the same time as the Dwarf Gorse, *Ulex nanus*, the two plants making striking contrast with their yellow and red flowers. St. Dabeoc's Heath, *Dabæcia polifolia*, though found in flower at almost all times from April to November, makes a special effort in August and September, and makes a fine show with its upright racemes of red, pink, or white bell-shaped blossoms.

The Ling, *Calluna vulgaris*, is the most common of our British Heaths, and is found in quantity in most parts of the country, making perhaps the finest show of all. Being so widely distributed it is not surprising that it is found in numerous forms, differing widely from the type; many of these have been given names, and it is these varieties that are usually found in gardens; some, such as *pygmæa* Foxi and *minima*, are dwarf dense-growing forms, reminding one of some of the curious dwarf New Zealand Veronicas. Others differ in colour and vigour; some of the best are a *ba* minor, *alba rigida*, *Hammondi*, and *Serlei*, whites; *rubra* and *rosea*, shades of red; *argentea*, with white variegated foliage; and *aurea* and *cuprea*, with golden leaves.

Added to these there are several other species and varieties which might be added by anyone forming a collection, but the above mentioned will be found the best for ordinary purposes.—W. D.

**Lælio-Cattleya Hermione.**

ON the occasion of the meeting of the various committees of the Royal Horticultural Society at the Drill Hall on August 14th, several plants were shown for certificates or awards of merit. Amongst those specially honoured only two received first-class certificates, these being Lælio-Cattleya Hermione and Nepenthes Sir William Thiselton Dyer, both of which came from Messrs. J. Veitch & Sons, Ltd., Chelsea. The new bigener was the centre of a considerable amount of attention, and

to the light, the growth matures well, and so free flowering is it that on a number of the plants the small tips of one season's growths only had all their attendant spikes.

Insects and Orchids.

I have latterly been visiting several collections of Orchids, none of them of any great size, in various parts of the country, and have on several occasions been surprised at the amount of carelessness that goes on with regard to insect pests of different kinds. Not only is this the case with regard to amateur growers who cultivate a few plants for their own amusement, but gardeners in fairly large private places where most phases of gardening are well attended to.

This is not as it should be, for the very first thing necessary in Orchid culture is cleanliness without a doubt. No plant, however vigorous and healthy it may be at first, can long withstand the drain upon its resources that the presence of insects entails, and Orchids are



FIG. 51.—LÆLIO-CATTLEYA HERMIONE.

a flower is represented in fig. 51. L.-C. Hermione resulted from a cross between Cattleya Luddemanniana and Lælia Perrini, and it is particularly remarkable for the splendid development of the sepals and petals and for the richness of the purple rose colouration. The lip is rather small, but of splendid shape; the colour is rich velvety crimson on the front portion, and pale cream within.

Dendrobium phalaenopsis.

The Moth Dendrobium, as it is popularly called, is one of the most truly ornamental of all Orchids, and certainly nothing else in its own genus can approach it for making a splendid autumn and early winter show. I have noted it in very fine condition lately in one or two places, the earliest and finest batch of plants I have seen being at Shipley Hall. The varieties seen have been selected with care, some of them being very distinct and beautiful.

One that struck me as being particularly good had about thirty open flowers and buds, the former being almost pure white in the sepals and petals, with a deep crimson suffusion about the bases and lips, a lovely plant. Ample heat and atmospheric moisture is necessary for this fine kind, and the latter is well arranged for by a system of open tanks under the stages. The plants being kept well up

no exception to this rule. Some, indeed, are very difficult to keep clean unless one is constantly at them, and among the number may be mentioned the lovely *Miltonia vexillaria*.

This, in a very large number of instances is covered with thrips, that sap the very life of the plants and leave unsightly black marks upon the foliage where it does not ruin the plant entirely. If an amateur grower gets hold of a dirty plant of this he may be excused for not cleansing it very easily, but when one sees such plants as Cattleyas and Lælias with the leaves all brown and discoloured, and the young leads weak and attenuated from this cause, then it is time the owner reformed or gave up Orchid growing.

Even the species especially liable to attack can be kept clean with care, as witness the hundreds of fine plants included in our best collections, and with the aid of recent methods of fumigation and the advent of powerful yet comparatively harmless insecticides there is no excuse for such slackness. I will not go into details here of the treatment necessary for the various kinds of insects; they have frequently been given in this column, and are fairly well known. My object in this note is rather to impress on cultivators of these beautiful plants the absolute necessity for cleanliness in respect to insect pests.—H. R. R.

London Gardens Over Fifty Years.—No. 24.

BY-AND-BY, I expect, every important park and recreation ground near London will have its botanic garden on a large or small scale. Already such have been formed in Battersea, Ravenscourt, and Victoria Parks. Plants representative of the principal natural orders are arranged on a plan which makes them very discernible to teachers and students. Trees and shrubs are also named; the advantages are, or, at least, are to be, increased by a printed list of the species each garden contains. This summer the display of flowers and fine-foliaged plants has been fairly good about our parks. The spring bulbs suffered somewhat from the inclement season. Climbers are rather few at present. I should like to see more of these grown for display on latticework, or occasionally on banks besides the familiar Ivy.

Mare in Urbe.

The Jasmynes succeed in London air, so do several species of Honeysuckle and Clematis; even the Passion Flower, the Wistaria too, and various others we might add. We find that, in consideration of the amusements of these London children whose visits to the sea are few or none, measures have been taken in several of the parks to supply sea sand during the summer, so that the youngsters may fancy themselves upon the shore. Southwark Park, for instance, which is in convenient proximity to the Thames below bridge, has received hundreds of tons. Perhaps, before long, as an additional benefit, we shall have shallow ponds made, filled with real or artificial sea water, in which children can paddle to their heart's content. We might also have supplies of seaweed, small crabs, shells, and other objects that give occupation to strollers along the coast. There might be also placed an apparatus to evolve ozone in the gardens of populous districts, so that older folks may breathe a purer air without the expense and trouble of going to the sea.

Highgate.

Highgate, notable for its rather mythical memories of Dick Whittington, but truly associated with many famous men of later date, is notable for its fragments of old English woodland, its Archway, and its curious local custom of swearing on the horns. No doubt it had, at an early date, its gardeners, though we do not read much about them. James Cael is said to have had a botanic garden there in the sixteenth century, and its chief nursery is known to be quite two hundred years old, but it appears, somehow, to have been overlooked by Loudon and other writers on London horticulture. I think the elevated position of Highgate, and its distance from the Thames, is a reason why it was not one of the suburbs which supplied fruit and vegetables to the metropolis. Besides Cutbush's establishment, there exists only the Whittington nursery of Mr. Jentle. The Victoria nursery has vanished. There are also two or three florists at Highgate. A rather celebrated eye snuff was stated to be prepared at the "Herbary." It is still sold, though now less popular. Probably Asarabacca was a chief ingredient. This used to be grown in gardens of herbs.

The Cutbush Nurseries.

Though it is not mentioned till the last article in this series, we must note that the nursery of Messrs. W. Cutbush & Son occupies a high place on the roll of London establishments, and very few have so long a history. For almost the whole period it has been in the hands of the Cutbush family; the name, one thinks, is appropriate to gardeners, but I presume the modern spelling does not give it in the first form. Being large importers of bulbs, the firm have been ordered to supply those required this autumn by the First Commissioners of Works, and the London County Council. Hardy shrubs and trees, also fruit trees, and hardwooded greenhouse plants receive much attention; the autumn and winter-flowering species are extensively grown. Ivies, Hollies, Orchids, and Roses are amongst the important items of the nursery, and tree or border varieties of Malmaisons. The ground at Highgate, of about 14 acres, is picturesquely situated; an acre is covered with glass, and the houses contain a fine collection of Palms and other decorative plants. At Finchley, within a convenient distance, Messrs. Cutbush have a larger nursery specially devoted to herbaceous plants and Carnations. But the bulk of plants under culture by this firm are to be seen at Barnet, where Messrs. Wm. Cutbush & Son hold above 200 acres of land, and have a large and varied nursery stock. In the neighbourhood of Barnet also is the Warwick nursery, owned by Mr. Swallow, and that of Mr. Hunter, the situation being favourable in several respects.

Growth of London Nurseries.

Finchley, besides the establishment of the Highgate firm, has several important nurseries, that have sprung up of late years, from whence quantities of produce are sent to London. The growth of the northern suburbs has developed nurseries and market gardens

about Edmonton and Tottenham, along the course of the New River, in what used to be a rather moist district. Most of these did not exist fifty years ago, and before another fifty the builder will probably have had dealings with some of them. At Tottenham a good deal of land is under cultivation about Northumberland Park, and one of the principal firms was that of T. S. Ware, Limited, of Hale Farm, having ground also at Bexley, Kent: the firm has now established its Hale Farm nursery at Feltham in Middlesex, and the Tottenham ground will presumably pass to the builder. About twenty years since Mr. Hayes, of Tottenham, had many visitors to see an Heliotrope house. He was proud of, from which he could cut blooms all the year round. The plants grew in a dense mass, and were about twenty years old.

Stoke Newington.

Stoke Newington, a memorable village in the past, which we reach before we mount Stamford Hill, on our way to Tottenham, might now be called a part of London, though comparatively open. Vainly should we seek its Cowslip meadows, where cattle pastured; much hay was also grown on its fields, only a few vegetables. A Mr. Rigby is said to have been the first market gardener here. The "Green Lanes," less attractive at present than when it received its name, had several nurseries adjacent; some have gone. There remains the fairly good-sized establishment of Stroud Brothers, near Clissold Park, partly enclosed by hedges of the old style. Of similar dimensions, having its open ground well stocked, and with several good houses, is the nursery of Mr. Oubridge, in Church Road, close by; and there are several smaller scattered about. Besides its common, this suburb has its park of some 53 acres, acquired in 1889 by the outlay of £100,000. Lately we have added to the public grounds of North Middlesex Dollis Hill, Willesden, a splendid piece of scenery; and The Chestnuts, a Tottenham estate.

Roses in London.

London's yearly bill for Roses is a big one, even in such a year as this, and only a small part of those required are raised in its neighbourhood; many flowers travel a long distance, as a supply is needed all the year round. Still, the London nurserymen are, many of them, growers of Roses, chiefly under glass, but some are successful in getting a good number of blooms out of doors within a few miles of the Metropolis. One of the most profitable of open air crops is yielded by the Moss Rose. I should think next to that Tea Roses have had the attention of suburban gardeners for the longest time and to the greatest extent; the outlay may be considerable, but the return good on sales through the winter. In many houses it has been the custom to let the Tea Roses run nearly wild, and yet they yield large crops of flowers; some nurserymen have had the centre of a house occupied by other plants, and carried up the Roses in lines along the roof. Gardeners who grow outdoor Roses near London graft the Tea varieties in winter and spring generally upon seedling Briars; these are kept in close frames with bottom heat, then repotted, and kept moderately moist, while they are gradually accustomed to a cool temperature. Early in June they are planted out, a part usually reserved in pots; the rest are set at variable distances. When planting, care is taken to keep the point of union in each Rose well beneath the soil. The mulching that is placed over the root is kept there till the pruning season in spring.

Waltham Cross.

At Waltham Cross we are beyond the metropolitan bounds, but we cannot pass over the nursery of Messrs. W. Paul & Son, established as far back as 1806, because, though they send goods all over the country, London receives quantities of stock from their establishment. Also, the firm is famous for its Roses, and Mr. W. Paul is the author of several valuable works on the culture of this flower. Many excellent varieties have been produced in their nurseries; to refer to one instance, you will hardly equal anywhere the Hybrid Perpetual Peachblossom, grown from English seed in 1874 at Waltham Cross. This is a Rose shown by testing to be constant in character and colour, which exhibits a large, exquisitely shaped flower, of a delicate tint. Altogether, Messrs. W. Paul & Son have about 250 acres of land in three counties, and their collection of trees and shrubs, over a thousand species or varieties, has, I believe, no rival in England. Some years ago, Mr. Ladds of Bexley grew more Hybrid Perpetuals than any other nurseryman near London (I cannot say who grows most now); he gave a leading place to Général Jacqueminot and Victor Verdier. At Tottenham, some years ago, Mr. Maller had a notable house of the first of these, grown upon Manetti stocks.

The Crystal Palace.

By an oversight, when referring to the districts of Surrey to the south of London, I omitted to notice the Crystal Palace. It must suffice to say here and now that, fifty years ago, this structure and its splendid grounds had not come into existence, and I trust it will long abide intact, as a memorial of Sir Joseph Paxton, who erected the

Palace and planned the park in 1853-54. It contains a good variety of trees and shrubs. The beds and walks have for many years made a display of the most beautiful and popular flowers. The shows, too, are a notable part of its history, and one of the latest events was the celebration of the bicentenary of the Sweet Pea.—J. R. S. C.

Fruit in Monmouthshire and South Wales.

(Continued from page 175.)

ON several occasions I have visited what is known as the Penhow and Llandeud districts. In the latter place large quantities of Shropshire Prune Damsons are grown, chiefly in the hedge and on waste pieces of land, and heavy crops of fruit are produced, which is a source of considerable profit to the cottagers and others. The soil here is shallow, but the trees root down into the crevices of the limestone, which in some places projects above the surface of the ground. No attempt is made to propagate by budding, but the trees are all raised from suckers. On the opposite side of the valley, and under what is known as the Wentwood Forest, Cherries are grown in large quantities. The fruit is small, but finds a ready sale in Newport and Cardiff, especially as they come in after the better varieties are gone. The trees are very large, and bear fine heavy crops of fruit. One of the growers told me that many times he has gathered from 50 to 60 lbs. without moving the ladder. The whole of these Cherry trees are seedlings, and are said to be nearly 200 years old, and I have no reason to doubt it.

In Penhow there are several large orchards, most of the fruit being grown for market. The favourite Apples are King of Pippins and the old Cassy. At one time great care was bestowed on these orchards, but afterwards they were allowed to fall into a very dilapidated condition; lately, however, there has been a great improvement. The old and broken-down trees have been removed, and the vacancies have been filled up.

We now cross the Wentwood ridge, and descend into the fertile valley of the Usk. On each side of the river the soil is of a rich loam, whilst most of the hilly land adjoining is heavy clay. Of the more important orchards of this district, one on the Bertholly estate is about 5 acres in extent. Many of the older trees are local varieties, whilst amongst those recently planted are Bismarck, Ecklinville, Lord Derby, Newton Wonder, and Warner's King. In the same parish there are several other orchards of which great care is taken, and this refers more especially to those situated near to the village of Llantrissant. In one of these nearly the whole of the trees were raised from seed by the father of the present owner, and they have never been grafted; and here my attention was drawn to a very heavy crop of Russets, the total weight of which I estimated to be over 10 cwt. on the one tree; and I have since been informed that I was very much below the mark. On the opposite side of the river, in the parish of Tredunnoch, the trees are equally well cared for. One case I should like to mention where the owner took me to see his orchard. It is situated in a deep hollow, there being only one narrow outlet. To this gentleman the trees were like children: no effort was spared to keep them clean; vacancies, whenever they occurred, were at once filled up; the ground was regularly manured with the scrapings from the farmyard, and all animals dying from disease or accident were buried there—the result being that the trees were laden with large and well-coloured fruit. A similar case I discovered in Llanbadlock, near Usk, at a farm called Pant y Cuckoo, or Cuckoo's Hollow. Some two years ago this old orchard was renovated at the expense of the landlord, and after planting the trees, iron guards were sent to protect them at a cost, I was told, of 13s. each—to take care of 2s. Some of the best specimens of Apples exhibited in the collection from Monmouthshire to-day were gathered from those very trees.

Passing through the town of Usk, and taking the main road leading to Abergavenny, we come to several orchards, the first at Trostre farm, in the occupation of Mr. Marfell. Here were excellent crops of Kings, Cox's Orange, Alexanders, and also the old Cats-head. Near the chain bridge which spans the Usk, on each side of the river, and also in the parish of Goytre, I found excellent crops of fruit. The Blenheims, Cox's Orange, King of Pippins, and many other varieties in the whole of this district were very highly coloured. Most of the fruit is sold in the Pontypool and Abergavenny markets. In some of these orchards there is a marked improvement in the way in which they are kept, whilst others are still in a very backward condition.

After leaving Cwmcavran we passed through Dingestow and Mitcheltrey; the orchards here are well cared for, Blenheims and King of Pippins (or, as it is known locally, Orange Pearmain) are

grown in large quantities. Some of the farmers here have a much better system of gathering and marketing their fruit, the result being that much better prices are obtained. On the banks of the Trothy, and within a short distance of Troy House, I visited an orchard situated in a well sheltered hollow: the soil was of a deep rich loam. To a question which I put to the aged farmer, a very intelligent man, as to some of the trees I saw, he replied that they could not be less than two hundred years old, for when he first knew them they were quite as large as they are now. Some of the trunks of Pear trees were at least 8 feet in circumference. I need hardly add that they were very common varieties, and that little care was taken in gathering the fruit, most of it being shaken from the trees, with the result that it was much bruised, and only realised a very low price in the market.

I will now refer to a very interesting experiment which has been made near by, and which should be an object lesson to the inhabitants in this district. Three years ago about half an acre of ground was planted with the better varieties of culinary and dessert Apples and a few Pears; the trees were nearly all on dwarfing stocks, the ground between being cultivated and regularly cropped with vegetables. Lime and stable manure is used, and this year at least 75 per cent. of the trees bore heavy crops of fruit, one dish of Newton Wonder taking the champion prize in the Monmouth Fruit Show.

I afterwards visited the Trelleck, Llanishen, and Llansoy districts. At the two latter places fruit-growing is considered one of the best and most profitable investments on the farm. Several of the orchards have been recently renovated, and the young trees are well protected and manured. Here I found a large number of Broad Eye Pippins, or what is known locally as the Kentish Pippin; Blenheims and Kings are also grown in quantity. In one of the orchards in this place I was somewhat amused at a remark made by a farmer in reply to a question as to the name of one of the trees which was loaded with Apples. He said, "We call that 'The Parson,' sir, for until about ten years ago that tree never had an Apple on it, but I put up a small shed near by for a colt to shelter in in the winter, and the whole of the manure from that shed was thrown under that tree, and ever since it has borne heavy crops of fruit." Evidently the farmer thought it paid better to feed the parson than to starve him, for the lesson he learned by observing the result of manuring this one tree was put into practice throughout the whole of his orchard, and I have never seen a more healthy or cleaner lot of trees. Before I pass on to describe what I saw in other places I feel that I must say a word about the large number of cottages, well built, and gardens formerly well stocked with fruit trees that are now fast falling into ruins. Through the depression in agriculture, very few men are now regularly employed on the farms, the result being that they have left the country for the more populous districts and large towns.

Monmouth and the surrounding district is one of the prettiest parts of the county. About six miles from the town we come to The Hendre, the seat of Lord Langatock. The fruit gardens were laid out in the year 1893 under the superintendence of Mr. Thomas Coomber, and are about 2 acres in extent. The soil is stiff clay and, underneath, blue marl. Previous to laying it out as fruit gardens it was pasture land, and before planting, the whole of it was trenched and divided into squares. The lower part is devoted to the different kinds of small fruit; adjoining and above are the plantations of Pears and Plums, the whole of which, including the small fruit, is enclosed and covered over with wire netting to the height of 8 feet. Most of the varieties of Plums were bearing very heavy crops, many of them weighted to the ground; amongst others I noticed the Czar, Early Prolific, Early Transparent, Denniston's Supero, Jefferson's, Kirk's, Grand Duke, Monarch, Oullins Golden Gage, Pond's Seedling, and Victoria. The Pears included most of the leading varieties, and many of them were carrying good crops of fruit. The Apples are on the upper side of the gardens, and are enclosed with wire netting. The trees are planted 12 by 10 feet apart, and it is difficult to find words to describe the magnificent crop of fruit. The whole of the trees are in pyramid form and are well shaped; up to the present time the pruning has been done by Mr. Coomber personally. During the latter part of the summer the lateral shoots are taken out, to enable the fruit buds for the coming year to develop and ripen, the leading shoots only being shortened in the winter months. The ground between the trees is cultivated and kept free from weeds by continually stirring the surface; but no manure of any kind has ever been applied, not even when they were planted, and yet the branches of nearly every tree were laden with large and well coloured fruits. Some of the best varieties were American Mother, Bismarck, Bramley's, Belle de Pontoise, Cox's Orange, Gascoyne's Scarlet, Lord Derby, Lane's Prince Albert, Peasgood's, Buemann's Reinette, Tyler's Kernel, Wellington, Newton Wonder, Ribstons, and Worcester Pearmain. The fruit trees on the walls in the kitchen garden, and the whole of the grounds are a credit to the genial and kindly hearted head gardener.—(Paper read by Mr. J. BASHAM before the Royal Horticultural Society.)

(To be concluded.)



Seedlings and Sports.

ONE of the most interesting studies in connection with horticulture is the raising of new varieties of plants and flowers from seeds, more especially if the plants dealt with happen to be of a variable character. In the latter case the crossing and intercrossing are so frequent that there is practically no defined laws to guide one as regards types, colours, and constitutions. It is an easy matter to get one or more good qualities, but we must strive to get all good qualities, or, at least, sufficient to satisfy the enthusiast, or we cannot advance in the right direction. All individual fads must be discarded, unless they are of such a character that co-workers can appreciate them.

Supposing that the object is to obtain a crimson. You naturally start with a crimson for a seed parent; and supposing that you also get a crimson for your pollen parent, anyone would naturally suppose that the result of the cross would be all crimson. But it is not so. The crimsons will predominate, but there will be others you did not expect. Perhaps you may have an extraordinary chance variety, that shows no trace of either parent. Take, for instance, that grand old Japanese, Edwin Molyneux. I would not be surprised if this has been the parent of hundreds of thousands of seedlings, and yet, where are the crimsons? I have myself raised considerably over 2000 seedlings from it, and have not yet named one of them. Some ten years ago we used to see it set up at the shows in splendid form, and although it is still extensively grown in England, we seldom see it here now. Pride of Madford was also a distinct break, but, like its predecessor, it is on the down grade. Some few years ago I was able to raise good average varieties from the latter, but now I have almost discarded it as a seed parent. From a number of seedlings from Pride of Madford I have got all the colours that are known in Chrysanthemums.

Madame Carnot must have been used very extensively as a seed parent; and yet, strange to say, we have not seen any of the seedlings to equal the parent. I might mention dozens of varieties I have used for both seed and pollen parents, but I think the above will explain that it would be unreasonable to say what you are going to get from any variety. If it is the raiser's desire to get the greatest number of variations from a given variety, it would be necessary to get those with two distinct colours, such as Pride of Madford or Edwin Molyneux, or any others where the reflex is distinct from the face colour. Should the object be to keep as much as possible to the distinctive type or colours of the parents, then you must select self colours. Any variety that is suitable as a pollen parent will also be a success as a seed parent. The secret we are most anxious to know is, What are the crosses that will give the very best varieties?

In raising seedlings there is one thing that must not be forgotten—viz., nearly every seedling the first time it flowers contains not only pollen, but is able to produce seed, and yet the same variety may be grown for a number of years before there would be a chance of getting either seed or pollen again. Therefore, if you get good varieties the first year, it is wise to bear in mind that the pollen should be used with a view to getting other good ones the following season. Bees and flies are the principal natural fertilising agents; and perhaps the simplest way to fertilise artificially is with the camel-hair brush, and although we get a larger percentage of good varieties from seeds treated artificially, we cannot with any certainty say when we are going to get the ideal variety, for in spite of crossing two varieties the progeny by that cross will not contain two that will be exactly alike.

Sports.

A great number of new varieties is obtained by sports, and although this is not clearly understood, I can confidently say it can be traced to a great extent to the parentage of previous crosses. This I have proved by obtaining seeds from plants that were self fertilised, and in most cases the colours of the fixed or future sports will stand prominently among them. For example, seeds obtained from Vivian Morel, that has been self fertilised, will give pink, yellow, white, and bronze; Syringa will give lilac, white, and yellow; Madame Carnot will be principally yellow and white, and yet all these colours have also been obtained by sports in the above varieties. We are now promised a crimson sport from Madame Carnot, and if it proves correct in every other particular it will rather upset my theory in that particular variety, for I have not yet been able to get a crimson from Madame Carnot, even though it has been crossed with crimson.

Soils have also a marked influence in the development of sports.

Rarely are sports obtained on very light soil, and further, richly fed plants seldom produce them; but it is on soil that contains more of the natural properties that the best results are obtained. A free loam resting on marly clay, or soil of volcanic origin, is favourable. I have obtained sports on loose sandy soil, but I think they were fixed previous to their removal to the sandy soil for flowering. It is not an uncommon thing to get a seedling to sport the first year. This season I had only one. The first flower that opened was half white, and the other half was yellow; a week or two later, when the lateral buds flowered, one side of the plant had white flowers, the other side had yellow flowers. This climate is peculiarly adapted for the successful raising of seedlings and the development of sports. The former is probably due to the variety of changes in the weather, which tends to cause greater excitement, for plants can adapt themselves to stand more than ordinary conditions. There is probably a reserve force, or surplus energy, that is occasionally drawn upon that would remain dormant were it not for the severe changes.

To all interested in horticulture, whether it is with a view to earning a living or for pleasure, I would recommend that they try the raising of new varieties of whatever plants, flowers, fruit or vegetables they are interested in, and I think it would cause many things to be raised that would be better suited to our climate, and put us on a higher level in the horticultural world than we stand at present. I am afraid some of the raisers in other lands have adopted too much in-breeding in trying to accommodate certain ideals; so much so that constitutions have been to a great extent sacrificed. I would, therefore, recommend as much out breeding as possible, so that the constitutions of plants be preserved, and the more these things are studied the greater will be the success to the amateur, the gardener, and the horticultural societies.—THOS. POCKETT, *Malvern, Australia*.

Freesias.

AMONG bulbs adapted for giving an early display of flowers without strong forcing Freesias take a leading position. They must, however, be potted early, so that they can make a steady advance and form plenty of roots, which renders bringing them into bloom soon after Christmas quite an easy task. There are few varieties of Freesias, the two best being *F. refracta alba* with pure white and very fragrant flowers, and *F. Leichtlini major*, pale primrose mottled with orange blooms. The latter variety has usually the larger bulbs, and the growth is slightly more robust, though in some cases the difference is scarcely perceptible. In addition to being early the flowers are, as in the case of the first named, delightfully fragrant.

It is advisable to pot successional stocks of bulbs in August and September, as the value of Freesias lies in having them in bloom early when the majority of spring-flowering bulbs are not ready to produce flowers. The best bulbs are large, firm, and even in size. Five-inch pots are the most suitable to form useful specimens, though of course larger potfuls may be used if desired. Clean, dry pots, should be well washed and crocked, covering the drainage with damp moss or moist flaky leaves. As suitable compost prepare a mixture of well-decayed turfy loam and leaf soil, decomposed manure and sand, in equal parts, adding also a little wood ashes or crushed charcoal. Fill the compost into the pots firmly, not, however, making it hard, and place the bulbs so that they will be 1 inch deep and 2 inches apart. A gentle watering may be afforded the soil after potting. Place the pots close together in a cool, shady frame, and, if possible, avoid watering until growth commences. Covering with ashes or cocoa-nut fibre refuse is not necessary, as when the bulbs commence to grow they would rapidly send up elongated growth through the covering material, and thus frustrate the chief object sought in the cultivation of Freesias—namely, to maintain them stocky and dwarf.

The plants must be kept as close as possible to the glass, affording a little air immediately growth commences, and increasing it gradually. Strong direct sunshine in the middle of the day should only be screened off during the early part of growth, when it dries the soil too rapidly. Afford water sparingly and carefully at first, and until the pots are fairly filled with roots, when more copious supplies should be given. After October a position on a shelf in a greenhouse, which is just kept safe from frost, is suitable. Attention should be incessant, in order to maintain the soil moist, examining the pots each day, only watering those that require it.

The growths being slender are not well adapted for supporting them-

selves, hence as soon as some advance has been made place round the edges of the pots some light twiggy sticks, which will hold up the growth, running round some light strands of matting. Carefully avoid overwatering, and also keeping the plants too dry, both of which are

When the flower spikes show, applications of weak liquid manure may be given about twice a week, or an occasional dusting of Clay's, Standen's, or other general artificial manure. These dressings will be washed into the soil when watering. The first watering should be given



FIG. 52.—FREESIA REFRACTA ALBA.

extremes that cause the foliage to turn yellow, when good results will not follow. Continue cool airy treatment in a position near the glass through the winter. In a temperature of 50° to 55° the plants will do well, but attempting to force them in a dry warm place is usually disastrous. Forcing will never make up for late potting.

immediately after applying the manure, so as to prevent it injuring the delicate surface roots. Small dressings frequently applied are better than a single large dose. Cease stimulating when the flowers are ready for opening, and tie out each flower stem to a light stake if the other supports are not sufficient.—S. C. S.



Looking Back.

THERE is a good deal of difference between the beginning and the end of the campaign. In the former case it is all uncertainty; we do not know who the combatants may be, or what will be their success or failure. Before the fight really commences one tries to forecast its character, although, as I have always maintained, it is impossible to do this with any degree of certainty, as everything depends on the character of the weather for two or three weeks before exhibition time. Reviewing it as a whole, however, this has certainly been an unfavourable and disappointing season.

With regard to Rose societies, generally speaking, some of them seem to have dropped out of existence, while fresh ones have been formed; others maintain a struggle for existence, and some hold up their heads boldly. Changes have taken place, too, as must inevitably be the case in the personnel of our exhibitors. Death has made several gaps. We have lost our most distinguished and successful professional grower, Mr. B. R. Cant of Colchester, and our treasurer, Mr. T. B. Haywood, who has of late years come to the front as an exhibitor in our large classes. However, happily in neither of these two cases do I think the exhibitions of the future will suffer much. Mr. Cant's two sons, on whom during the protracted illness of their father the burden of exhibiting rested, will, I hope, worthily maintain the honour of their house, while the fact that Mrs. Haywood exhibited successfully at the exhibition at the Crystal Palace gives us good hope that the Woodhatch Roses will still make a prominent figure in our future exhibitions.

In looking back upon the Salisbury Show one is painfully reminded of the loss the Rose world sustained by the death of Mr. Walter H. Williams some years ago. Perhaps of all places in which the exhibitions of the National have been held there is none so attractive as that of Salisbury. The Wilts Horticultural Society had obtained permission from the Bishop of Salisbury to hold its annual show in a meadow adjoining the grounds of the Palace, and there, with all its beautiful surroundings, its green grass and stately trees, with the graceful tapering spires of the Cathedral keeping guard over all, the lovers of the Rose had a treat of no ordinary kind. As for the show itself, though not up to what might have been wished, either in quantity or quality, it still had features of peculiar interest.

Amongst amateurs the Rev. J. H. Pemberton carried off the chief honours, which is the more remarkable because his garden is not an early one, and no amateur grower of whom I know has so long a season of exhibiting. Garden Roses, as usual, attracted much attention, and in the large class of thirty-six those redoubtable champions, Messrs. Paul & Son of Cheshunt and Cooling & Sons of Bath, made an admirable display, while Mr. Charles Turner of Slough set up a beautiful stand of eighteen varieties. A gold medal was awarded to Messrs. Alex. Dickson and Sons for a fine bloom of Alice Lindsell, a creamy rose colour, which promises to be a superb flower, and of considerable staging qualities.

The George Prince Memorial prize, consisting of cup value 5 guineas, was won by Mr. Alex. Hill Gray of Beaulieu, Bath. This prize was instituted to keep the memory fresh of that genial and successful rosarian, the late Mr. George Prince of Oxford. It was subscribed for by some of these members of the National who regretted his loss, and in order that all growers of Tea Roses should have a chance of obtaining it, it is arranged that the competition should be for eighteen Tea Roses the first year, twelve the second, six the next. It has been competed for three years, and so according to the plan of the committee the competition was for eighteen this. As might have been expected Mr. Hill Gray's stand contained several beautiful Roses.

At this early season many of the single Roses were well exhibited. As the season advances these drop out, and are succeeded by the smaller Tea and Noisette Roses. A very beautiful garden Rose called Bellefleur, not quite single, was exhibited by Mr. Geo. Prince of Oxford, and received a card of commendation. It is a crimson scarlet with a touch of yellow at the base. It is always a matter of interest to see what Roses are worthy of the medal as the best Rose in the exhibition. In the amateurs' division the best H.P. was Mrs. R. G. Sharman Crawford, exhibited by the Rev. J. H. Pemberton; the best Tea or Noisette was Maman Cochet, shown by Mr. A. Hill Gray; and the best H.T., La France, by the Rev. A. Foster Melliar. In the nurserymen's division they fell as follows:—Messrs. D. Prior & Son for Lady Mary Fitzwilliam (H.T.), Messrs. Burrell & Co. for Duchess of Bedford (H.P.), and Mr. Geo. Prince for Comtesse de Nadaillac (Tea or Noisette). It must be seen that both new and old Roses shared these honours between them, while at the same time some of those flowers which always run in this race were left out in the cold.—D., Deal.

The Growing Popularity of Fruit.

MR. GEORGE MONRO has been telling certain interesting facts from his experience to the members of the Royal Horticultural Society which are not altogether discouraging to home cultivators. When he entered into business thirty years ago there was little fruit sold in London outside Covent Garden. In the City there were three fruiterers, but beyond these specialists none others in the whole of the metropolis. A few persons would open shops during three months from the end of June for the sale of Strawberries and other fruit, and in the West End fruit was retailled in a general way by the green-grocers in conjunction with vegetables, and in one case by a firm of wine merchants. During the decade 1870-80, however, the influx of American Apples, Bananas, and Pine Apples increased so greatly that fruiterers began to spring up everywhere, and fruit departments were attached to the wholesale stores. Now the quantity and succession of fruit, native and foreign, is unceasing. Forced Strawberries coming in between February and June is the time in which foreign competition presses least. These are raised in houses afterwards devoted to Cucumbers and Tomatoes. Speaking of English Apples, Mr. Monro admits that the English grower is improving, but while his best are the very best, he sends much into the market which is only fit for the jam pot or cider.

In Grapes it is otherwise. The trade in these has been revolutionised by the enormous increase of the home-grown. Thirty years ago there were very few except the surplus of private places, and we had to depend principally on the Dutch Hamburgs coming in round baskets, and the Lisbon Sweetwater through the autumn, and through the winter those coming from Almeria in barrels. The Dutch are never seen now, being quite superseded by Channel Islands and English; the Sweetwater from Lisbon and the Almeria come in much larger quantities; and of late years many tons also come from Malaga, Denia, and Mercia, all packed in cork dust, while cool chambers bring a fair quantity from Cape Colony and a few from Australia. But with all the increase in imported ones, the quantity of home-grown has gone up by leaps and bounds. Thirty years ago there were none forced in Guernsey, and at only one place in Jersey (Mr. Pond's), but soon after that, one or two other people built for early work in Jersey, and a great many in Guernsey put up lean-to's at the side of their dwelling-houses, but did not heat them. It was soon found that the climate and soil suited the Vine, and the growth has developed marvellously in early and greenhouse Grapes, but the air being so charged with moisture in winter prevents growers keeping them late. The next place to go into them largely for market was Worthing. Twenty-five years ago there were only two or three small places; now there are considerably over a hundred. The climate and soil there being also found suitable, especially for early ones.

Also about that time came the great increase from Scotland, principally late varieties, as some six or eight followed in the steps of Mr. Thomson of Clovenfords, and for many years these all came to London and sold well; but the quantity grown near here was steadily increasing, and, prices falling, caused all those grown in Scotland to be sold locally, and at present more are sent there from London than used to come from there. The quantity now grown under glass in the Channel Islands and home counties runs into thousands of tons, and covers the whole of the year. One important point has to be studied, and that is, to take into account the natural advantage of the different situations, and grow early or late ones accordingly. Besides this great increase, there are some hundreds of tons grown in Belgium, originally for the Paris market, but, by being shut out of there by a prohibitive tariff, nearly all come to London. To give some idea of the trade done in winter Grapes, over 34 tons were sold by Mr. Monro in the week preceding Christmas, 1898, which does not include any coming from the Channel Islands or Belgium, or any sold by other salesmen.

Another great help to the development of trade is care used in grading and packing, and great credit is due to our growers of hothouse produce for success in that direction. But this does not apply to growers of orchard fruit generally. It seems almost impossible to make them realise the necessity of pleasing the eye. Quality is of course an important feature, but it stands second in the fruit trade to appearance. If a good fruit looks well the public will buy it and ask for it again; but if it does not look well they will not buy it at all. Foreigners have realised this, and take no end of trouble to put fruit not only on the market but on the consumer's table in as perfect a condition as possible. They also grade well, knowing that some customers have a demand for best and largest fruit, while others can do best with medium. By suiting both they put more money in their own pockets and help to consolidate a trade.

NOTES & NOTICES

Recent Weather in London.—Metropolitan weather has been most unsettled of late. On Saturday a heavy thunderstorm with torrential rain passed over the whole of London; Sunday was cold and dull. On Monday there was a high wind with occasional showers. On Tuesday it was cold and dull, but very little rain fell. Wednesday opened with bright sunshine, and there was every prospect of its continuance throughout the day.

Royal Horticultural Society's Fruit Show at the Crystal Palace.—The Royal Horticultural Society's seventh annual show of British-grown fruit will be held at the Crystal Palace on September 27th, 28th, and 29th. Intending exhibitors may secure schedules and other necessary information from the secretary, R.H.S., 117, Victoria Street, London, S.W.

The 1900 Apple Crop in America.—That the present Apple crop will be a great one is the general estimate. A few unfavourable reports from certain localities do not influence the total, and it appears that the year's yield will surely equal that of 1896. Increased care in cultivation seems to tell largely in this result. The special organs of the fruit trade are impressing the necessity of careful operations, especially as the European crop promises equally as well. The gross amount of the Apple trade is stated to be 50,000,000 dols.

Olives v. Wines.—It is reported that an observant English official in Italy has drawn and continues to draw attention to the gradual uprooting of Olive trees in certain districts in Italy, and the substitution therefor of the Grape Vine, the product of the latter becoming larger year by year at a falling price. In a few years, says the official, this must end in a glut of wine in the market, selling at prices which cannot prove remunerative to the cultivator; possibly at that period it will not be possible to make up with Olives for the lee way made by Vine cultivation.

How Water Ascends in Plants.—At one time there was considerable difference of opinion as to the course pursued by the sap of trees in ascending from the roots, and that followed by the food materials elaborated in the leaves when being transferred to the various portions of the tree in which their process of growth was in progress. It has now been established that all the moisture required by the tree or plant for its existence and growth is taken up by the roots, and that the water so absorbed is conveyed to the higher regions through the medium of the woody part of the stem. On the other hand the food materials elaborated by the leaves are conveyed to the various parts of the plant system by the bast tissues which immediately underlie the bark, and are ranged around the outside of the wood.

Domestic Floriculture.—With the object of encouraging a love for and efficiency in floral decoration by the industrial community, his Worship the Mayor of Kingston-on-Thames (Alderman Meath) early in the summer offered a series of prizes for the frontages of houses not rated over £20; a committee was appointed, consisting of municipal authorities and active townsmen, including Messrs. W. Drewett, W. T. Wells, and A. Dean, with Councillor Syme as secretary, for carrying out the project. Four classes were formed, with five prizes in each, for the prettiest and best kept flower gardens visible from the street, also for window boxes and wall decoration, the prizes in the larger classes ranging from 20s. to 10s., in the smaller from 15s. to 4s. Though the notice was short there were no fewer than eighty-four entries, and so close and meritorious were the competitions that in addition to the twenty prizes offered the judges were constrained to recommend ten more. The mayor at once generously agreed to give the thirty prizes. Recognising the commendable nature of this competition the County Council provided adjudicators, and on the invitation of Mr. H. Macan, organising secretary, Sir Trevor Lawrence, Bart., has, in view of the circumstances of the case and remarkable response to the mayor's laudable endeavour, kindly consented to distribute the prizes at 4 P.M. on Saturday 8th September. The function should be interesting, and it is certainly not a common occurrence to find the mayor of an ancient borough, a leading County Council, and the president of the Royal Horticultural Society joining forces in the interests of domestic floriculture of the nature above indicated.

United Horticultural Benefit and Provident Society.—A special meeting will be held at the Caledonian Hotel, Adelphi Terrace, Strand, W.C., on Monday, September 10th, at 8 P.M., for the purpose of taking into consideration the recommendation of the committee upon that part of Rule 8 which relates to the secretary's salary.

Orchid Fibre.—Orchids are famous for beauty and general attractiveness, but it is not generally known that they have a place in the arts that minister to the physical wants of man. But in some parts of the tropics, where Orchids abound, a very delicate fibre is prepared by the natives, which they use in the preparation of the many ornaments these races prepare for trade with the paler races of men.

Report of the Shrewsbury Show.—Messrs. Buchanan of Kippen near Stirling, write informing us that owing to a mistake the tickets attaching to the prize exhibits in the new Grape section had to be altered after the show was opened, so that their Grape Diamond Jubilee should appear as taking the first place and not the second as represented in our report. Also by an oversight Messrs. Jones & Sons of Shrewsbury were only credited with a "gold medal" instead of a "large gold medal," which was really their award.

Shrewsbury Floral Fete.—On Wednesday there was a falling off in the gate receipts of £82 as compared with the corresponding day last year, the total being £797 against £879. Considering the treacherous weather, this must be regarded as a very satisfactory state of affairs. On Thursday it was anticipated at five o'clock that the decrease of receipts for the day would be £150, but at the conclusion of the show it was found that the takings amounted to £1808, a decrease of only £44 on the receipts of the second day last year, and a considerable increase on the amount received at previous fêtes. The lowest estimate gauged the attendance at 60,000, which is very gratifying to the committee and to the town generally. Thus, notwithstanding the very indifferent weather, the total receipts were £4600, or the second best on record. From an early hour in the morning thousands of excursionists arrived by train.

London Woods.—The nearest approach to wild woodland within fifteen miles from London (at all events on the south side of the Thames) is to be found within reach of the Chelsfield and Halstead Stations of the South-Eastern Railway (direct Tonbridge line). The Knockholt Beeches, on the summit of the hill above Halstead, are a familiar object to those who have looked south-eastward from the Crystal Palace, and they may be seen on a clear day from the top of Parliament Hill, or even from Harrow. The view from them, says a writer in a contemporary, is less known, but to the lover of woodland it is more interesting; for here, within a circuit of a few miles, are clustered some genuine remains of the Andredesweald. Hereabouts the forest retained its pristine character certainly later than Elizabethan times; and within the memory of men still in the prime of life the Cudham Woods (a spot hallowed by its association with Charles Darwin) enjoyed much of their ancient wildness.

Flower Farming in the United States.—There were in the United States last year no fewer than 9000 farms on which flowers for cutting were grown under glass for sale, the total areas actually under glass aggregating 22,500,000 square feet. The Department of Agriculture at Washington estimates that the retail value of the cut flowers sold from these flower farms annually is no less than £2,500,000, apportioned as follows:—

	Number of cut flowers.	Value per 100.	Total value.
Roses	100,000,000	24s.	£1,200,000
Carnations	100,000,000	16s.	800,000
Violets	75,000,000	4s.	150,000
Chrysanthemums	—	—	100,000
Miscellaneous flowers, Lilies, &c. ..	—	—	250,000
Total	—	—	£2,500,000

In addition to this it is further estimated that the retail value of the plants sold from these flower farms is £2,000,000, and the number about 100,000,000. The total retail value of the annual output is thus £4,500,000, or just 4s. for each square foot of glass. On the average one man is required for every 1500 feet of glass, making 15,000 employed in the industry in all. The State of New York comes first in connection with this industry, having 4,500,000 square feet of glass; Illinois is second, with 4,250,000 square feet; and Pennsylvania third, with 4,000,000 square feet. The amount of capital invested in the industry over the entire country is over £2,250,000, and it is estimated that this sum is actually received by the growers each year for the plants and flowers sold.

Secretaries of All Gardening Mutual Improvement Societies are requested to send the address and title of their organisations to the Editor of the *Journal of Horticulture* for insertion in the coming edition of the "Horticultural Directory," which is published at 12, Mitre Court Chambers, Fleet Street, London, at the beginning of December.

Death of Mrs. Leonard Sutton.—It is with much regret that we record the death of Mrs. Leonard Sutton, wife of Mr. Leonard Sutton, of the well-known firm at Reading, at the very early age of thirty. The news of such a bereavement will excite general sympathy in horticultural circles.

Potato Disease in Cheshire.—On account of inclement weather and the prevalence of much blight, the Potato disease is rapidly spreading in Cheshire. Thousands of acres are affected, and so bad is the disease that in some districts the crop will hardly pay for raising. It is feared that half the tubers will be spoiled.

Shirley Gardeners' Association.—At the usual meeting of the Shirley Gardeners' Association, Southampton, held on the evening of the 21st of August (Mr. B. Ladhams, F.R.H.S., chairman), a most interesting lecture on "Manures in Vegetable and Fruit Culture" was given by Mr. F. W. E. Shrivell, of the Experimental Grounds, Golden Grove, Tonbridge, Kent. These experiments have been tried during the past six years, the main object of which has been to discover whether there is economy in the use of chemical manures. Mr. Shrivell gave results therefrom, as compared with the use of dung, showing the results of the two kinds of dressings on the Cabbage tribe, on fruit trees, and on lawns. Even Strawberry plants, pot plants, and Potatoes have been treated, and the results carefully noted and compared. The names and quantities of the various chemicals were given with extreme accuracy, and the lecture was of engrossing interest to the audience of practical men.

The English Arboricultural Society—Annual Conference.—This society held its yearly conference meetings from the 14th to 17th inst., at the Grand Hotel, Manchester. On Wednesday, the 15th, about 150 members and friends visited the nurseries of Messrs. Wm. Clibran & Son, Altrincham, which were minutely inspected, especially the forest tree departments, and the general opinion was that the time had been most advantageously spent. Whilst in the neighbourhood visits were paid to several places of interest, including the Dunham Parks, by kind permission of the Countess of Stamford and Warrington, where some grand trees were measured, and in several cases photographed, for record in the Society's Journal. The party was afterwards entertained to luncheon by Messrs. Clibran & Son, to whom a hearty vote of thanks was accorded. In the evening the annual dinner took place at the Grand Hotel, at which the principals of Messrs. Clibran & Son were the guests. The Lord Mayor of Manchester honoured the company by his presence, and responded to the toast of "The City and Trade of Manchester." Chatworth and Haddon Hall were visited on Thursday and Friday respectively.

Croydon and District Horticultural Mutual Improvement Society.—The August meeting was held in the society's room at the Sunflower Temperance Hotel, George Street, Croydon, on Tuesday evening the 21st. Mr. W. J. Simpson, Falk Park Gardens, presiding; Mr. E. Mills, The Gardens, Coome House, occupying the vice chair. Seven new members were elected, and the new programme of papers and lectures was distributed. Mr. W. Harris (manager of the seed department, J. R. Box) read an excellent and most practical paper on "Bulbs." Having described the methods of cultivation, propagation, and harvesting adopted by the English and Dutch trade growers, Mr. Harris then gave a selection of the best sorts of Hyacinths, Tulips, Narcissi, Lily of the Valley, Freesias, Ixias, Anemones, Spanish Iris, &c., and the treatment of each, strongly advising early planting and the use of good, moderately light loam, sand, leaf mould, and thoroughly rotted manure. In the discussion which followed, Freesias coming in for a goodly share of favour, after which a vote of thanks was accorded to Mr. Harris. Mr. Reddam, Manor House, West Wickham, exhibited some fine seedling double Begonias. The chairman announced that an excursion had been arranged to Horsham to visit the gardens of C. J. Lucas, Esq., Warnham Court, and "Leonardslee," the residence of Sir E. G. Loder, Bart., by the kind permission of the gentlemen named. The next meeting will be held on September 18th, when Mr. C. A. Blogg, secretary National Cactus Society, will read a paper on "Cacti" of the U.S.A., Mexico, and California, and how to grow them.

Grapes in Bethnal Green.—It was stated recently that in Pentonville Road there was a Vine with 180 bunches of luscious Grapes. Bethnal Green, it would seem, can improve upon this. Mr. G. Bootle, of 104, Gosset Street, states that at the back of that house (the most thickly populated part of Bethnal Green) there is a Vine which has over 450 bunches on it. The Vine, he adds, stands about 14 feet high and about 12 feet wide, and, considering its size and position, he reckons it takes the record for London.

Chirk Horticultural Society.—Glorious weather favoured the tenth annual exhibition of the Chirk Horticultural Society at Chirk. The district comprises St. Martins, Chirk, Black Park, Pentre, Chirk Green, and Newbridge. The objects of the society, to encourage cottagers and amateurs in the improvement of their gardens and in fruit, flowers, and vegetable production, appear to have been almost completely attained, considering the high state of perfection in which the 1000 exhibits were regarded by the judges.

Potato Buttons.—We have real ivory and vegetable ivory, and not many years since the threatened ivory famine produced that remarkable imitation we know as celluloid, which has been successfully employed for every possible use, from billiard balls to piano keys. To-day the imitation has itself been imitated, and that, too, by a curious preparation of Potato pulp! The inventor is a Dutchman named Knipers. He treats the waste pulp, itself a residue from the manufacture of the artificial Potato flour, with a solution of acid and glycerine. The resulting compound takes the form of a species of stickfast, which is dried and ground to powder. This powder is moulded into blocks, with the aid of water, very much as one uses plaster of Paris. There is, however, this important difference. The new compound can be cut and turned and bored and used for every purpose, from buttons upwards, in which it was formerly customary to use bone and ivory.

Fruit in Ceylon.—The attempts which have been made in the past to cultivate fruit on a large scale in Ceylon have not been of so encouraging a nature that hopes may be entertained that we shall see Orange orchards and fields of Pines filling our markets with a cheap and abundant supply of two of the best fruits Europeans can eat in the East. Oranges remain scarce and dear, which might in the gardens of the villages around Colombo alone be grown without trouble and in abundance to fill all the requirements of Colombo, and the constantly increasing number of steamers and ships putting into our harbour. It is possible that the attempts which have been made in the past to cultivate Oranges on a large scale resulted in a failure on account of the class of plants chosen not being best suited to this climate, and whilst it is most desirable that better strains should be introduced, the Oranges which are in small supply in Colombo are not by any means undesirable in quality, but the quantity first requires attention. The Pines usually offered for sale in Colombo are of a very poor description yet, what Ceylon can do in the shape of Pine growing is shown by the delicious fruit to be secured by paying an increased figure. We are rather sanguine that were a start made by encouraging villagers round Colombo to plant the best strain of fruit trees, the results would very amply repay the time and money expended.—("Times of Ceylon.")

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900. August.										
Sunday.. 19	S.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday.. 20	W.S.W.	66.1	59.5	77.3	51.9	—	66.9	63.8	60.1	43.5
Tuesday 21	W.S.W.	62.7	59.9	74.1	52.6	0.07	66.3	63.8	60.1	45.5
Wed'sday 22	W.S.W.	63.6	60.3	71.5	56.2	0.18	65.9	63.8	60.1	50.5
Thursday 23	W.S.W.	62.8	58.1	67.8	58.8	0.28	65.4	63.8	60.2	55.3
Friday 24	E.S.E.	54.6	53.5	66.2	48.3	0.53	62.8	63.3	60.2	40.4
Saturday 25	S.	66.5	60.0	68.9	49.8	—	61.9	62.5	60.2	42.8
	S.W.	58.3	56.8	65.5	48.9	0.12	62.0	62.3	60.2	43.5
MEANS ..		62.1	58.3	70.2	52.4	Total 1.18	64.5	63.3	60.2	45.9

The weather during the past week has been generally dull, with only two fine days. The rain was heavy on the 23rd, and on most days the wind was very strong.



Mischievous Birds.

A LITTLE while ago, I think, someone stated in the Journal that he did not believe birds ever acted for pure mischief. How does he account for the following? I and some others have, in certain places in our churchyard, troughs of water, in the shape of crosses and wreaths, periodically filled with freshly cut flowers. The majority and sometimes all these flowers are almost always pulled out within twenty-four hours by birds. And it is because the poor things want to get at the water, is it? Well, not only does a good clear river, with plenty of easy shallow drinking places, actually bound the churchyard, but I put a little pot of water with no flowers in it by the side of my cross. It is of no use, the flowers are scattered about just the same. I have only once seen it done. The culprit was a blackbird. He lighted by the cross, and with wonderfully quick action, quite as quick as I could do it myself, beginning at the bottom, threw out right and left every flower. He saw me when about half-way through and flew—he did not attempt to drink. Can anyone explain or help?—W. R. RAILLEM.

Nertera depressa.

THIS charming little plant, with its crimson bead-like berries close to the ground, forms a dainty cushion for a carpet bed in summer, and is likewise ornamental in pots for the front of a stage. I was pleased to note some remarks of "V. T." on it in the Journal a little while ago. My plants are now showing their tiny pink flowers in profusion, and I am sanguine that a rich crop of fruit will follow. The plants were wintered in a cold frame, the glass having had no covering, and since March they have been plunged in ashes in the open border, receiving no protection whatever. Other plants grown under glass are about perfecting their berries, and I cannot imagine any low-growing plants more conspicuously beautiful. Plants are readily increased by division, keeping them regularly and continually moist; also from seeds, sowing as soon as ripe in a damp shaded frame, never permitting the soil to approach a state of dryness. The three prime essentials in the cultivation of this plant are coolness, light, and water. With a bed of ashes in which to plunge the pots, and a hand-light or frame to afford shelter in severe weather, anyone may grow *Nertera depressa* if he will but water it freely.—W.

Late Apples.

SOME little time ago I read some remarks in the Journal upon the increase in the number of late Apples for home consumption. I quite agree with the remarks there made, that there is too often an insufficiency of desirable fruit to carry over the supply until the end of April say. I am convinced, however, that late Apples for profit as a market commodity are a mistake, in my part of the country at any rate. As I have more than once said in the Journal, the moment the good samples of American Apples can be bought, even at a higher price, it is useless to offer English grown fruit and expect remunerative returns. There appears to be such an allurements in the attractive appearance of the Baldwins, and the firm flesh of Newtown Pippins, that even Cox's Orange Pippin fails to meet with its just demands. What with the trouble of storing, and the loss in consequence, coupled with the low prices, I have given up the growth of late sort planting and gone in wholly for the increase in early varieties, whether for kitchen or dessert use. The latter for preference, though, as I am yearly convinced, there is a scarcity of dessert fruit as well as variety grown.

With regard to the culture of late sorts, I quite agree with "B." that the trees are allowed to carry too many branches as well as fruit. We only have to look at the very fine examples of espalier trained trees roped with fruit, as they are to be seen repeatedly, and be convinced that such trees by the increase of light, air, and sun the branches obtain has much to do with such results. When one sees so much blossom as the trees are carrying this year, one is tempted to ask why should each tree have so many branches as we invariably see bushes furnished with? Where trees are grown in limited numbers and for home consumption only, the work of thinning the fruit, as well as strict attention to summer pruning or pinching, is time well spent. The better the maturity of the fruit the longer it will keep, given, of course, suitable conditions as to storage.—E. M.

The Colouration of Apples.

A YEAR or two ago I wrote to the effect that up to the end of September (I think it was) my Apples were singularly lacking in colour. Then came a cold week with a touch of frost, and directly that was over the colour came on the fruit at once. This year we have had in the first ten days of August, an unusually cold spell after great heat. Now that the heat has returned I notice that the colour has come on my Apples to an unusual extent for the time of year. I am forced to the conclusion that a cooler time after heat is required for the colouring of Apples. Is that idea at all corroborated by science?—W. R. RAILLEM.

Gloxinias Attacked by Rats.

WHEN inspecting recently a fine collection of Gloxinias in a notable establishment in the neighbourhood of Birmingham I was surprised to observe that nearly every expanded flower had been mutilated, apparently by cockroaches, but was informed that the delinquents were rats, and who were observed in the act. Their *modus operandi* was to bite a large piece out of one side of the flower—nearer the base than the apex, and without injuring either the pistil or the stamens, a marked feature being the almost uniform size of the hole bitten in each flower—thus suggesting that it afforded a ready ingress for possible extraction of any nectar at the base of the flower; otherwise, why not, if the corolla alone afforded the food sought, have devoured the latter wholesale, instead of merely biting a hole in each so systematically? The portion bitten out, however, was evidently eaten. I was cognisant of the fact that mice and cockroaches have been known to attack Gloxinia flowers in a somewhat similar manner, but not in such a wholesale onslaught as by the rodent in question. The plants were of the erect flowering strain.—W. G.

Carnation Mrs. T. M. Lawson.

I NOTICE in your issue of August 9th, page 133, a comment upon the American Carnation Mrs. T. M. Lawson. You no doubt know from my name appearing at many shows that I am a very great enthusiast with Carnations, and I received this variety from a lady and gentleman from America in the spring with very great pleasure, looking forward to something extraordinary in the way of bloom. This came into bloom with me in the month of June, and I must say if ever I was disappointed with a Carnation with such glorious and marvellous account I was disappointed with this. The only good thing about it in my opinion is its colour; the size is nothing at all extraordinary, in fact some of the flowers are very little better than Marguerite Pinks as grown with me. The flower is very rough on the petal, more like a sawed edge than the beautiful smooth edge which we look for in English flowers; and as to the scent, with the first flowers with me it was conspicuous by its absence, although the flowers that are now in bloom certainly are a little sweeter scented. For my own part, as a Carnation grower, I can hardly realise it is worth the room it takes up, and if I grow it at all it will be merely as showing what the American paid 30,000 dollars for rather than for its own merit.—ROBERT SYDENHAM

The Poet Cowper as a Gardener.

IN the delightful article on Cowper the writer in mentioning the difficulty of determining old plant names gives two examples—"Amomum" and "Ficoides."

"Th' Amomum there with intermingling flow'rs
And Cherries hangs her twigs,"

is not Myrtus Pimenta, but the well known decorative plant, *Solanum capsicastrum*. It was known by a variety of names, and appears in all the older books on gardening, most often as *Amomum* Plini, under which designation it is figured and described in Gerard's "Herball" and in Parkinson's "Paradisus;" while in James' "Theory and Practise" it is referred to as "the Amomum or Solanum." "Winter Cherry" is another of its forgotten designations, now appropriated solely by *Physalis Alkekengi*. "Ficoides" was the name given by Tournefort to the *Mesembryanthemum* (Linn.), and

"The spangled Beau,
Ficoides, (which) glitters bright the winter long,"

is the common Ice Plant. It is described in many works in the eighteenth century, but Hill's in "Eden" will suffice to show what plant the poet had in his mind. "The spangles with which it is adorn'd, which cover it with a glossy whiteness in the shade, and glitter in the sun, have caused it to be call'd after various suppos'd resemblances, &c." The plant was regularly treated as a greenhouse one during winter.—R. P. BROTHERSTON.

Notes on Late Grapes.

THE last days of summer are with us, and the cold dewy nights and quiet hazy mornings show plainly that we are on the threshold of autumn, when tinted leaves and ruddy fruits are the forerunners of leafless branches. We know not what kind of weather may be in store for us throughout September; it may be wet and almost sunless, or the rapidly shortening days may be light with brilliant sunshine, to ripen the wood of Vines and fruit trees, and to mature their crops. Those who grow late Grapes largely know full well that the behaviour of the elements during the first month of autumn has great influence upon the finish of their crops.

The summer has been by no means favourable for forwarding late Grapes without the aid of extra fire heat, and those who, for various reasons, did not follow the oft-repeated advice to start late varieties of Grapes early in spring, should have been on the alert to make the most of whatever sunshine we get in the present month. During recent years we have had hot summers and fine autumns, conditions which have been extremely favourable for the forwarding and ripening of late Grapes, and I fear that such seasons often have the effect of causing us to delay the starting of late Grapes the following year, in the belief that a summer of sunshine is sure to follow. The practice, however, is not a wise one, for whatever weather may follow, the safer course to pursue is to use fire heat when the Vines are started, instead of having to fire hard to ripen them in autumn. I have never yet known a house of Gros Colman Grapes to be ripened too early to keep well, and there is no Grape which dislikes strong fire heat more while the berries are colouring. Plenty of fire heat will toughen the skins, and get the berries into excellent condition for travelling; but they will never become perfectly black when ripened under such conditions. In market establishments a good amount of fire heat is usually applied to Colmans while they are ripening, with the object of hardening the skin, as it is in their case more important to grow Grapes that will travel well than to get them perfectly black; large berries fairly well coloured command quite as high a price as those which are perfectly black. The exhibitor who is striving to win first prizes, however, must have perfectly black Grapes, and to secure such he should aim to ripen them early with as little fire heat as possible.

A good deal can be done to bring about the desired results by the judicious regulation of ventilation. After colouring has considerably advanced a crack of air should be left on the top ventilators constantly, and when the nights are not too cold a slight amount may be admitted through the bottom ones also, but during very cold nights this should be taken off. A most important point is to commence to increase the ventilation early enough in the morning. A common mistake made is not to do this till sunshine appears, but when the sun bursts out suddenly the temperature of a house rises so rapidly that the moisture quickly settles on the berries and disfigures the bloom. Houses fully exposed to early morning sunshine ought to have the ventilation increased early enough to prevent the temperature of the house from rising rapidly when sunshine does strike it. Lean-to structures having a west aspect require considerable care in their management, as sunshine does not reach them till rather late in the morning, and then rushes up the temperature quickly if extra ventilation is not given. In all these matters the axiom should be to anticipate sunshine, and give air to prevent a rapid rising of the temperature.

After noon the air should be gradually reduced as the sun loses power so as to shut in as much warmth as possible consistent with safety to the Vines. On changeable afternoons one is often tempted to greatly reduce the ventilation early in the afternoon, anticipating that the matter will need no further attention that day. In this, however, we are often woefully disappointed, as the sun bursts out again with great force, and unless more air is at such times admitted, moisture will quickly settle upon the berries. When, however, this afternoon ventilation is skilfully regulated it plays an important part in hastening Grapes which are somewhat backward.

In regard to fire heat I do not advocate getting the hot-water pipes very hot at any time. The aim should be to have them comfortably warm throughout the night and during dull or wet days. By following that practice and paying special attention to ventilation Gros Colman, Alicante, and Lady Downe's Grapes will colour better and more quickly than when hard firing is resorted to. Years ago, before the cultural requirements of Gros Colman were

understood as well as they are to-day, writers in the horticultural press invariably advocated that this variety required plenty of heat, and recommended it to be planted in a Muscat house. I have had to deal with Vines in such a position, and I always found that the Muscats ripened before the Colmans, and when fire heat was discontinued to prevent the Muscats from shrivelling the Colmans immediately began to colour better.

Muscats, Mrs. Pearson, Trebbiano, and other late crops of white Grapes all require far more fire heat to colour them well than black Grapes do. For this reason those who have houses of mixed Grapes to manage labour under a disadvantage. It is, however, not always practicable to devote a late house entirely to either white or black varieties, but difficulties may to a great extent be minimised by planting the former at the warmer end of the house. All young laterals should at this season be persistently removed, so as to allow the main leaves to have the benefit of full exposure to sun and air, under which conditions alone can they perform their functions satisfactorily. Young growths are also extremely liable to be attacked by mildew, and this disease spreads quickly during the damp nights of autumn. The best way to stamp it out is to paint the pipes with flowers of sulphur, and then heat the water to almost boiling point, but when such a course has of necessity to be pursued it is not conducive to high colour in black Grapes.—H. DUNKIN.

Perpetual Strawberries.

IF anyone was tempted by my eulogy last year of St. Joseph Strawberry to give it a trial I do not think he has been disappointed. I can only say, with my further experience, that it seems to me one of the greatest steps in horticultural progress of late years. I put out last August five or six rows of strong runners of St. Joseph, and also (when I could get them, which was not till nearly November, and they were then very small plants) a dozen of St. Antoine de Padue, the cross between St. Joseph and Royal Sovereign. I allowed each plant to make from four to six runners, which were encouraged to root and grow where they were. All other runners from the main plants and from the runners have been pinched off as soon as formed by going over them at least every other day.

And now for the result:—St. Joseph beat Laxton's No. 1 for earliness by a day or two. My Royal Sovereigns failed rather, somehow. My Latest of All, after good promise, were burnt up by the sun. Even for main crop St. Joseph was by far the most abundant; we have never been without Strawberries since the beginning, and now (August 18th) we are picking good dishes every day, not only as much as we care for, for breakfast and dinner, but to spare for friends. The king-fruits of each truss are not uncommonly twice as big as the size pictured in the advertisement. Some of this year's runners are throwing up three or four trusses of bloom each, with stems as thick nearly as a penholder. There will be no further distinction of second or third crop, for the blossoms are in all stages on all plants, some only just showing.

The only drawbacks I can mention are:—It is not a fruit that colours well, and the large ones are the better for turning and gathering next day, and if much shaded by foliage they ripen very pale. It did not like the cold wet spell, and many fruits rotted; wasps and flies are beginning to find them out; and the flavour, though much liked by many, is a little too sharp for my taste.

As for St. Antoine de Padue, of my twelve plants, from all of which as they were very weak I picked off the first bloom trusses, one died, two are weak, and one is evidently a "rogue," apparently simple Royal Sovereign. The remainder have all flowered and fruited again, and some (but not much more than half) of the runners are showing bloom trusses. I should say it is perpetual, but not by any means so perpetual as St. Joseph. The king-fruits are larger than those of St. Joseph, a deeper hue, and colour better, and the flavour is decidedly sweeter and more pleasant to my palate. But, with my present experience, I should say that the remaining fruits of each truss are smaller than the average St. Joseph. And, at present, St. Joseph is the Strawberry for me, though I have no doubt it will be improved before long.

The plants have, of course, been "well done by," with occasional weak liquid manure in the spring. I have not strawed them in any way, as this would have been a hindrance to cultivation and rooting of the runners. The beds have been mulched with what proved a very suitable material, four or five-year-old pea straw pig manure, which had decomposed down to something like the consistence of cocoa-nut fibre refuse. I am strongly of opinion that there is a great future for perpetual Strawberries.—W. R. RAILLEM.

Culture of Melons.

IN our issue of August 16th in referring to a paper read by Mr. A. Pettigrew, Cardiff, Castle, we promised to make further remarks on the subject, and we are now able, by the courtesy of Mr. Pettigrew, to reproduce a photograph (fig. 53) taken a few weeks ago of the Melons under his charge, and which admirably demonstrates the fact that Melons and stove plants may be successfully associated. It must not be inferred that this successful grower advocates the culture of Melons in such positions in preference to devoting special structures to them. This is not the case. These favoured fruits have to be cultivated in practically all gardens in the country, and every gardener is not the most favourably equipped as regards houses adapted for specific purposes. In fact, excellent heated pits are frequently at a minimum, and where such is the case the Melons, at any rate, can be relegated to the plant stove. We saw the house containing the plants represented in the photograph some weeks ago, and can testify to the vigour, health, and productiveness of the Melons as well as the general excellence of the miscellaneous plants therein contained.

The methods of procedure in the cultivation of Melons at Cardiff Castle, as laid down by Mr. Pettigrew in his paper at a meeting of the Royal Horticultural Society are by no means elaborate. Special houses cannot be devoted to the Melons, and, therefore, they are grown

on the side stages of a lofty plant stove, where they appear to be perfectly at home. Not only do the plants make progress that can only be regarded as in every respect satisfactory, but the fruits develop a richness of flavour that is all too seldom to be found in the majority of Melons at the present time. Naturally enough, variety has much to do with this, but it is quite certain that cultivation plays a very important part in achieving the very desirable object named.

In listening to the reading of Mr. Pettigrew's paper, or in conversation with him relative to Melon growing, one fact is made most obvious, and that is the importance with which he regards careful watering. It may almost be asserted that this is, in his view, the principal item in Melon culture. Not only does he lay down clearly defined rules relative to the ordinary applications of water by the aid of

the watering pot, but also that provided with the syringe. The great desideratum is to avoid wetting the collar of the plant under any circumstances whatsoever. Hence we find Mr. Pettigrew a strong advocate for the use of collars of zinc or other suitable material which surround the stem of each plant at a distance of 9 inches. Within that radius no water must be applied; every drop goes on to the soil without the charmed circle.

Of course every reader will appreciate the difficulty of keeping water therefrom at the time of syringing. This is done at Cardiff with the aid of pieces of strong brown paper rather larger in size than the area covered by the ring; a slit is cut in each piece, and prior to syringing it is placed in position, the cut allowing of the admission of the stem of the plant to the middle of the paper. This catches the drip during syringing, and shortly afterwards the paper is removed until required again.

Every gardener is not nearly so particular in the matter of watering as in this instance, and still most creditable results are secured. For example, Mr. Fyfe of Lockinge produces crops equal to those of any other cultivator, and yet he is by no means averse to watering directly upon the collar of the plant at its point of junction with the soil. We have examined the Lockinge plants, and have failed to find the practice indicated, though diametrically opposed to general usage, has the slightest prejudicial effect upon their health.

Watering, then, is evidently regarded by Mr. Pettigrew as a primary factor towards success, far more so than soil. As a matter of fact the basal soil of the borders is stale, fresh

compost being placed upon it for the reception of the plants. It might be thought that the subsoil, if we may so term it, would become so sour as to preclude the possibility of any roots living within it. But the roots of the Melons remain upon or immediately beneath the surface, hence the inert soil plays practically no part in the successful culture or otherwise of the plants in the soil above it.

We cannot go into all the details of Melon culture as given by Mr. Pettigrew in his paper, and have therefore confined our remarks to the points of chiefest importance. The entire essay will be printed in the society's journal in due course, and it will be advantageously perused by everyone, and particularly by those whose conveniences for the production of large supplies of Melons are not so great as they could hope.



FIG. 53.—MELONS IN THE PLANT STOVE AT CARDIFF CASTLE.

Parkinson and the Carnation.

JOHN PARKINSON on gardening, like Izaak Walton on the gentle art of fishing, is admittedly princeps; and he or she to whom has come the privilege of being admitted to the charming conversation of this lovable man, whose grim-like portrait adorns "The Garden of Pleasant Flowers," receives one added zest to the pursuit of his pleasurable craft. John was a general flower lover, but it was the Carnation, "the Queene of delight and of flowers," that called forth his deepest affection; and so it is natural that he recurs to the plant again and again, and to its cultivation devotes a long chapter full of informative details, and gathers together in one treatise all that was to be told about the early history of this ever-pleasing flower, with hints on its culture that are not yet out of date, and possibly never will be. There were "best Gardiners" in those days, and doubtless our author was fully conversant with all their practices; and though gardening is one of the arts that unfolds itself, and is constantly exhibiting something novel to its pursuers, it is well to remember the same thing has occurred to others in bypast times, and what is entirely new to us may nevertheless be very old indeed.

Cultivators in Parkinson's days grew Carnations on very much the same lines as we do now. The plants were increased by three methods—by slips, which was becoming an old-fashioned way; "by in-layers or laying downe the branches of them," "a way of later invention," but quite as common as the other; and by seeds, which was less common, because seeds were only sparingly produced. They were exceedingly particular in the preparations of composts and manures, and though "stable soyle of horse, beast or kine, of sheepe, and pigeons" was added to the soil, it was only when "thoroughly turned to mould" that it was mixed with the "other earth." Bark reduced to mould, as well as that found in decayed Willows, was also used to improve the natural soil.

Plants were cultivated not only in beds, of what at a later period came to be called the *parterre*, but they were very largely grown also as pot plants; and as a proof that ingenuity was not unknown long ago, it must be noted that special pots were manufactured for Carnations, with rims to hold water, which served as a barrier to the "Earwickes," that all along seem to have had a liking for the sweet petals of the Gilloflower. The lack of glass frames was to some extent compensated for by means of "Beehives or else with small Willow stickes, prickt crossewise into the ground over your flowers, and bowed archwise, and with litter laid thereon to cover the Gilloflowers quite over." March winds seem to have been equally feared with the cold of winter, and in that month the plants were covered with pots inverted over them, or by means of "pales" were afforded shelter from its withering blasts. The various methods of propagation and the treatment of the plants generally are detailed with great minuteness, and with that peculiar *bon camaraderie* of tone which marks the "Paradisus" so delightfully. In the chapter on Carnations, as well as in other parts of the book, much quaint and original information is also stored up.

Parkinson classified the plant differently from any other writer either before or after. Not a few of his predecessors distinguish two classes, one with large flowers another with small, but to these he added a third, "The Yellow or Orange-Tawny," of which he appears to have been especially enamoured, and says they included "many varieties of that excellent worth and respect that it can hardly be expressed or beleaved." They varied in size of flower, some being as voluminous as the largest of the "Maximus" section, others being quite small, and the blooms were marked with spots, flakes, and stripes in much the same way as in these sections; but they were distinguished from both by more dense habit of growth, a freedom in the production of seed, and a greater difficulty in their cultivation.

What appears a somewhat incongruous mixture is the classing of scarlets with yellows, "John Wittie his great Tawny Gilloflower," for example, being not only of the largest size, but also of a "laire deepe scarlet colour." "The Feathered Tawny" also was scarlet with white feathered markings. "The Flaked Tawny" seems to have been a deep buff, and this was curiously flaked not only in the usual manner, longitudinally, "but often thwart the leaves." "Master Tuggie's Princesse" bore the palm among all Carnations, "a flower exceeding delightsome, the most beautifull that ever I did see;" and "Master Tuggie his Rose Gilloflower" though raised from seed of a yellow flower was a red self, with smooth edged petals, perhaps the first of its kind, for all the old Carnations were with the exception of this composed of petals with deeply indented serratures. Not only so, but the "great Harwick," which Parkinson calls also the "old" English Carnation, had the centre of its large flower composed of small petals with deep and very fine "jaggies," this variety having the

further peculiarity of foliage broader than in other sorts, "turning or winding two or three times round." It was, moreover, difficult to grow, slow of increase, shy to bloom, and bearing marks which are found now only in the old Malmaisons.

Another old variety, which, however, belonged to the Gilloflower section, with small blooms was the Pageant, mentioned thirty years earlier by Gerarde. The Pageant was purple coloured, thickly powdered with white, and was one of the commonest varieties. "The Fragrant" belonged to the same class, and was a rose coloured flower spotted with white. "Master Bradshawe his Dainty Lady" has repeatedly been mentioned as the forerunner of the now almost lost "Painted Lady" section. It, however, differed in essential particulars from the latter, because its distinguishing characteristic was not a petal white on the under side and dark on the upper, but the upper edges of the petals were broadly marked with white, as also the lower portion of the same, the red being, as in the case of the Auricula-eyed Sweet William, confined to the portion of the petal between the edge and the middle. It is apparent from the engraving of the variety that a very small portion of the flower was coloured. It is further remarkable for its small size, measuring only three-quarters of an inch across; we may therefore safely infer that this type has been entirely lost, the Latin rendering of the name, "Elegans heroina Bradshawi" showing that "Dainty" was not an appellative that had slipped in by mistake for "painted," because "elegans" is also employed as the Latin equivalent for "The Daintie" Gillyflower.

Parkinson is also one of the few writers who note the fact of the flowers of the Clove Gillyflower having been eaten in winter as a salad. The petals were in summer placed in jars in layers, alternating with sugar, and when nearly full vinegar was added as a preservative. The method, with the ways of using the flowers, is given very fully in "The English Housewife."—B.

Earthing Celery.

(Concluded from page 170.)

MANY writers uniformly recommend, in earthing up Celery, to give only a few inches at a time. Now, I have no objection to this plan late in autumn, when the sun's force is declining; but I have no hesitation in stating that bit-by-bit earthing-up in July and August, and even the first part of a sunny September, is the chief cause why, when early Celery is taken up, there are so many bolted heads, of no use for the salad bowl, or as an accompaniment to cheese. Our practice rests on the simple fact that the Celery is a ditch-side plant; that to keep growing freely it must have moisture to meet the free evaporation from its foliage on a sunny day; that to make it throw up its flower-stem freely, the best mode to adopt is to keep it dry at the roots, and this is what is constantly done by the bit-by-bit earthing-up system, as supposing you give a good watering at first when you add 2 inches of soil, and 3 more inches over it at earthing-up, no rain will reach the roots, and the evaporation from the foliage still goes on; so that in lifting the Celery it will not be uncommon to find the bulk of the roots surrounded by soil which is as dry as dust. Can we wonder that the plants throw up their flower-stems?

Before leaving the subject I would advert to a few correlative matters. Our tying acts as a slight earthing would do, but it leaves the roots open to natural or artificial moisture. Again, we have grown early Celery to an immense size; but except for a particular purpose, I now look on all such huge heads as labour misapplied, or even worse; first, because from these huge plants the head that was obtained for table was not at all proportionate in size to that obtained from our compact moderate-sized plants in a bed; and secondly, because these huge plants, if not protected from wet, were a great loss and disappointment, as in rainy weather the wet found its way down to the heart of the plant, and, unable to find its way out, it remained there as in a cup, became foul like other stagnant water, and finally scarred or caused the valuable part of the Celery to decay. We have taken up in September the large heads referred to, and found fully one-half only fit for the rubbish-heap. For economy in every way, middle-sized heads are best, and they will be the sweetest when the manure used is sweet and well-decomposed.

In earthing Celery for early use, as on our plan it will never stand long, nothing is better than the common soil. For late Celery and that which is to remain through the winter, and especially in heavy soils, the Celery will keep better if surrounded with ashes, sand, moss, or anything that will keep slugs and worms away, and allow superfluous moisture to pass off. An inch of coal or furnace ashes round the plants will be of great advantage in keeping them sound.—Z.



Storing Apples.—The chief point to attend to in the preservation of fruit is to handle it with the greatest care, not casting the Apples into baskets and turning them out roughly, as if this is done bruises are made, though they may not be apparent at the time, and decay is incited. A cool dark cellar or shed is suitable, but with the windows or door opened occasionally for the dispersion of moisture for a week or two after the fruit is stored. A very dry, light, and warm place is not recommended, as in such the fruit is apt to shrivel.—D.

Brodiaea laxa.—This is a very handsome species, producing slender many-flowered stems, which vary greatly in height. Those flowering with me are about a foot high; the perianth is tubular bell-shaped, $1\frac{1}{2}$ inch long, of a rich tyrian purple, but the colour varies. I have seen it much paler—indeed, a dull purple or pale blue; it also has its albino form, which is, however, very scarce. I have bulbs, but not yet strong enough to flower. *B. Bridgesi* is very like *B. laxa*, but the perianth is not so long, and there are points of difference in the stipe supporting the ovary and the filaments; but these are points which the ordinary gardener cares little about, suffice it if any plant is superficially distinct. These both thrive under the same conditions as *B. ixioides*.—FLORA.

Schizanthuses for Spring.—These are very valuable greenhouse plants, and very suitable either for spring or autumn sowing, the former to yield plants for flowering in summer, the latter for spring. Seeds may be sown from the middle to the end of August for spring flowering. Sow thinly in 4 or 5-inch pots, and place in a cold frame as soon as the young plants are large enough to handle; thin them out, leaving five or six in a pot, and keep them sturdy by giving plenty of air in fine weather. If severe weather set in, remove to a shelf near the glass in a cool greenhouse. When the plants show for flower, which should be about the end of February, give a little weak liquid manure about twice a week. They may be had in flower about the end of June by sowing in pots, as mentioned above, on a gentle hotbed, towards the end of March. Harden them when out of danger from frost, and stand out on a cool bottom until they flower. The next sowing may be placed in a cold frame, and by sowing about once a month until the end of June a succession of bloom may be had from June until the end of October. The soil may be three parts turfy loam, one of good leaf soil, sand, and a very small quantity of soot, mixed well together. *S. pinnatus* is much used for growing in pots, but *S. retusus* is more beautiful, and considerably dwarfer. Well-grown plants of this annual are superb objects.—F.

The Hollyhock.—The Hollyhock takes such a high position among autumn-flowering plants that it is scarcely necessary to speak in its praise. I can add, without fear of contradiction, that no other plant grown combines the qualities suitable for shrubbery and border decoration to the same extent as the Hollyhock. It is easily cultivated, requiring only a little protection through the winter—a few coal ashes shaken over the crowns and removed in early spring being all that is required. It is generally propagated either by seed (and seedlings make the best plants) or by cuttings—single eyes taken off in August and inserted in light soil in pans well drained and plunged in a frame in leaves or tan, so as to have the assistance of a little bottom heat. This is a quick method of working up a stock. Give air as required when the eyes have made a little growth, and when they are sufficiently rooted pot the young plants singly in 3-inch pots, and replace them in a close frame for a few weeks, and when the pots become full of roots give the plants a shift into 6-inch pots, using one-half of rich loam, one-fourth of well-decayed manure, and one part of leaf soil, with a good admixture of silver sand, all well mixed together. At this stage the plants may be placed in a cool pit or frame for protecting them through the winter, admitting plenty of air on all favourable opportunities. They will be ready for the open ground in spring. To increase by seed, the seed should be gathered early in the autumn from the most double blooms of the finest shape and colour. Sow it in pans, and give the seedlings the same treatment throughout the plants from single eyes. I have practised this mode of culture, and have found it most satisfactory.—J.

Gas Lime.—The usefulness of gas lime for land is becoming better known every year, and the proper time to apply it is directly the corn crops are carted home. But it must not, says a contemporary, be put on "seed" fields, because if applied fresh and in quantity it kills all vegetable life. Albeit, when it has lost its sulphur, which it does in a few months, it is no longer injurious to plant life, but succours it, and acts as a potent fertiliser. It acts most usefully when fresh in, killing all kinds of creature pests in the soil, which are very destructive to crops in many fields. Tipula grubs, slugs, and wireworms are the worst pests, but gas lime kills them when applied properly—that is, in sufficient quantity and quite fresh.

Grapes Shank.—Many gardeners would tell you the best remedy for shanking is sulphur on the pipes. If shanking were caused by fungus this would unquestionably be an effectual remedy; but unfortunately for the fungus theory, as well as the proposed remedy, there is the fact that till within the last few years almost every grower was in the habit of placing sulphur on the pipes for another purpose, and it did not prevent the shanking. Shank is always caused by a vitiated or a deficient supply; it may be owing to the want of sufficient foliage or of healthy roots; it may be from the lack of some essential ingredient in the soil, or from insufficient water. Generally speaking, if the foliage is good, a little stimulant administered to the roots with warm water will temporarily check the evil. The plan of cutting off the shanked part is of no avail except for appearance.—T. W.

Clianthus Dampieri.—Until this year I have failed to flower this most charming plant. It is known by the name of the Parrot-beak Plant and the Glory Pea of New Zealand. The first time I saw it in flower I was so struck with its beauty that I determined to grow it, but I have failed until now. I sowed seed year after year as recommended in the catalogues and books. The seedlings came up, attained 6 or 8 inches in height, and then damped off. This *Clianthus* is an annual or biennial. Some sow it in the autumn and flower it in the following summer, treat it, in fact as a biennial—a bad plan, as the chances are that it will not survive the winter. I now give what I consider to be the whole secret of success. On the 1st of February put two seeds in the pot in which the plants are intended to flower—an 8-inch pot is quite sufficient. For soil use turfy loam and a little well decomposed dung, with a mixture of silver sand; charcoal drainage is good, and a little turfy fibre to surround the collar of the plant I consider is of great importance. Plunge the pot or pots to the rim in a brisk bottom heat, and if a square of glass is placed over them the seeds will germinate sooner. If one seed germinates it is well, but if two vegetate it is better. By no means separate them, as two plants make rather a better display. Overwatering is fatal; give only a little when they are in need of it. Plenty of light and air must be afforded.—M. N. C.

Rosa setigera.—When the month of August comes round a great many of the climbing Roses have gone out of flower, or at best only produce a few scattered blooms, so that a Rose which will flower late is a decided acquisition. The subject of this note—the Prairie Rose of North America—is a beautiful species which has a very pretty effect in a garden during August. It is a first-rate rambling Rose, spreading rapidly in all directions once it is fairly established, and soon forming a dense mass of stout shoots, which in season are covered with flowers. The flowers are single, deep pink in colour, turning paler with age, and borne in large trusses of twenty to thirty or more flowers in each. There are, however, two forms of this plant, one of which has flowers about the size of those of the Dog Rose, while the leaves are narrow and smooth on both sides. The other form has flowers about twice the size of the preceding, and rather deeper in colour, and the leaves are broader and more rugose, and covered beneath with a thick pubescence. These two forms are extremely variable, as if cuttings are taken from a plant of either sort both will be found to appear in the resulting plants, while older specimens are liable to change from year to year, though it is doubtful if both forms have ever yet been found on the same plant. There is, however, need of more extended observations on a larger scale to properly determine this change of form and its limitations. *R. setigera* succeeds best in a fairly heavy, but not too rich soil, and requires no pruning except the cutting out of dead wood and weakly branches, which is best done immediately after flowering. On no account should any growths be shortened back. It is a plant which would be useful for hybridising, but though it has been tried many times it has not up to the present produced any result, but at best it is shy at setting fruit. It is easily propagated by cuttings.—C.

Codonopsis clematidea.

THE genus *Codonopsis* is included in the *Campanula* family, and several of its members are very suggestive of the medium-sized Bell-flowers of erect habit. The climbing annual *Codonopsis*, *C. rotundifolia*, is perhaps the best known, together with its beautiful variety *grandiflora*, the yellowish flowers being veined with dark purple. *C. clematidea* (fig. 54) is not too frequently seen, however, although it is an attractive plant of considerable merit as a hardy perennial. It is a native of elevated regions in Asia, and produces its neat bell-shaped pale blue flowers at the points of the slender stems, which rise to the height of 2 or 3 feet. The flowers have a charming appearance when cut and arranged with other flowers or foliage in vases. This is in reply to "W. Raby," and we trust will be of service.

Royal Horticultural Society.

Drill Hall, August 28th.

THE Drill Hall on Tuesday was splendidly filled with a considerable number of excellent exhibits, mainly requiring the attention of the Floral Committee. Orchids were very few in numbers. Fruit was magnificently staged, especially by Messrs. W. Fyfe and T. W. McHattie.

Fruit Committee.

Present: P. Crowley, Esq. (in the chair); with Messrs. J. Cheal, E. Shaw Blaker, H. Esling, A. Dean, G. Kelf, W. Bates, F. Q. Lane, G. Norman, G. Bunyard, and W. Poupart.

Messrs. G. Bunyard & Co., Maidstone, contributed a collection of Apples and Pears, comprising some two dozen varieties. The fruits, as is customary with the Maidstone exhibits, were of typical shape and very rich in colour. The most conspicuous Apples were Cardinal, Gold Medal, Golden Spire, Red Astrachan, Grenadier, Potts' Seedling, Worcester Pearmain, Duchess' Favourite, James Welch, Lord Grosvenor, Duchess of Oldenburg, Ecklinville, The Queen, Lord Suffield, and Emperor Napoleon. The Pears included Petite Marguerite, Williams' Bon Chrétien, Dr. Jules Guyot, Doyenné Boussoch, and Madame Treyve.

Mr. Chas. Turner, Slough, showed a number of fruits of Early Rivers Nectarine grown on trained trees in the open ground; the specimens were of excellent colour and size. A collection of fruit trees in pots from a cool orchard house was arranged by Messrs. J. Laing & Sons, Forest Hill. In the majority of instances the plants were carrying a creditable crop of fruit. Peaches were prominent, but Nectarines and Pears were also shown. Messrs. Laing & Sons had in the front of the pot trees dishes of Apples Benoni, Devonshire Quarrenden, Worcester Pearmain, Lord Grosvenor, Domino, Lady Sudeley, Lord Suffield, Ecklinville, Professor, and Golden Spire amongst others.

Apples formed the backbone of the table arranged by Messrs. S. Spooner & Son, Hounslow. We also observed Plums Early Transparent, Belle de Louvaine, Prince of Wales, Diamond, Denniston's Superb, and Victoria. The best of the Apples were Royal Jubilee, Potts' Seedling, Lady Sudeley, Peach, Beauty of Bath, Emperor Alexander, Grenadier, Gloucester, Worcester Pearmain, Oker, Duchess' Favourite, Red Quarrenden, Stirling Castle, Red Astrachan, Councillor, and Frogmore Prolific. Pears Beacon and Clapp's Favourite were also included.

A superb collection of fruit was contributed by Mr. T. W. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, Mortimer, Berks. The twenty bunches of Grapes were magnificent alike for the size of berry and the form of bunch as for the excellence of the colour. Alnwick Seedling, as represented by several bunches, was perfect. Other varieties included Muscat of Alexandria, Raisin de Calabria, Madresfield Court (exceptionally good in colour), Black Hamburg, Golden Hamburg (perfect), and Gros Maroc. There were eight Melons, including a seedling named Lord Lothian, which will be valuable if its flavour equal its appearance, Ne Plus Ultra, and Royal Jubilee. Amongst the Apples we noted Gascoyne's Scarlet Seedling, Lady Sudeley, and Red Astrachan; Pears Pitmaston Duchess; Plums Reine Claude de Bavay and Oullis Golden Gage; Peaches Early York, Early Albert, Sea Eagle, Nectarine, and Hale's Early; Nectarines Stanwick Elruge, Lord Napier, and Spencer; and Figs Brown Turkey. The whole of the fruits, except the Grapes, were shown in small baskets with trails of Smilax between.

The collection of fruits contributed by Mr. W. Fyfe, gardener to Lord Wantage, V.C., Lockinge Park, Wantage, was conspicuous alike for general excellence of quality and for taste in arrangement. The finest feature was undoubtedly formed by the Peaches, of which Barrington, Crimson Galande, and Grosse Mignonne were of perfect shape, good size, and without a fault as regards colour. The Madresfield Court Grapes were fine in berry, but scarcely finished, and the bunches of Muscat of Alexandria were grand, but would have improved in colour with another week or two. Of Apples there were Worcester

Pearmain, Miller's Seedling, Irish Peach, a grand Lady Sudeley. The Melons were Pride of Stourbridge and British Queen, and the Figs Brown Turkey and White Ischia. The two baskets of Morello Cherries were very handsome. There were about eighteen punnets of Plums with nine fruits in each. The varieties were Gutbrie's Tay Bank, Gutbrie's Late Gage, Denyer's Victoria, Angelina Burdett, Royal de Tour, Green Gage, Jefferson's, Kirke's, Washington, Coe's Golden Drop, Sharpe's Emperor, White Magnum Bonum, Imperial Ottoman, and Heale's Hybrid.

Messrs. J. Veitch & Sons, Chelsea, sent a collection of Tomatoes in pots, Chiswick Peach being the variety represented. The plants were magnificently fruited. Messrs. Vilmorin, Andrieux et Cie, Quai de la Mégisserie, Paris, show three Aubergines (Egg Plants), including Violette ronde, Violette longue hâtive, and Violette naine très hâtive, with some young round Gourds suitable for use as Marrows, and a small Marrow shown as of typical size to give choiceness of flavour. Messrs J. Veitch & Sons sent Bean Veitch's Hybrid, Nectarines Early Rivers, from trained trees in the open ground, and Précoce de Croncels and Apple Langley Pippin. Mr. W. Bain showed Bean Dolichos Lablaba, a form with purple flowers and pods, and Strawberry St. Antoine de Padoue. Mr. Coates, Maidenhead, sent Apple Coates' Seedling; Mr. J. Watkins, Hereford, Crab Gideon, and Apple Hâtive de Crimea.

Floral Committee.

Present: George Paul, Esq. (in the chair); with Messrs. H. Turner, M. L. de Vilmorin, J. Margottin, G. Nicholson, C. T. Druery, H. B. May, W. Howe, J. Hudson, C. J. Salter, C. R. Fielder, J. D. Pawle, W. Bain, C. E. Pearson, J. Walker, G. Gordon, and W. J. James.

Mr. Maurice Prichard, Christchurch, staged a beautiful exhibit of hardy flowers, comprising most of the subjects in flower at this season. Conspicuous were *Helianthus* Soleil d'Or, *Multi maxima*, Miss Mellish, *rigidus*, and Golden Glow; *Rudbeckia purpurea* in grand form; *Montbretia pyramidalis*, *Solfaterre*, *Rayon d'Or*, and Fiery Star, the latter a beautiful form; *Phloxes* in variety, *Tritomas*, *Gaillardias*, *Liliums*, and *Gladioli* constituted the other chief features, the whole forming a capital exhibit.

A fine display came from Messrs. Barr & Sons, Covent Garden, who staged a large table of *Phloxes*, *Liliums*, *Pentstemons*, *Gladioli*, and other hardy flowers; also a small collection of *Cactus Dahlias*. The *Phloxes* included such modern varieties as Eden, Champignol, Lothair, Greven, and La Siècle. The *Dahlias* contained some good flowers of Laverstock Beauty, Cornucopia, Progenitor, Kingfisher, and Keynes' White. *Verbena* Miss Willmot was also well shown.

Messrs. F. Cant & Co., Colchester, staged a table of autumnal and garden Roses which were beautifully fresh and attractive. Those most notable were Longworth Rambler, Souvenir de J. B. Guillot, Madame A. Chatenay, Shirley Hibberd, Souvenir de C. Guillot, Papillon, L'Idéal, Gustave Regis, and Rainbow, also a quantity of other well known varieties, forming an interesting exhibit. The *Chrysanthemum* season opened with a display of early flowering varieties from Messrs. W. Wells & Co., Ltd., Earlswood, Redhill, who staged Victor Mew, a fine white sport from Madame Desgranges; Miss Ruth Williams, a yellow sport from Mrs. Hawkins, and a decided improvement, too; Mychett White, in good form; Madame Marie Masse, and its bronze form Crimson Marie Masse; Market White, and Queen of the Earlies; a very fine exhibit for August.

Messrs. Paul & Son, Cheshunt, contributed a display of garden Roses in fine form, also three bunches of the new Grape Lady Hastings. The Roses included Papa Gontier, François Dubreuil, Madame Pierre Cochet, Gruss an Teplitz, Marie Van Houtte, Marquise de Salisbury, and Kaiserin Augusta Victoria, with several others of good merit. The whole exhibit appeared fresh and bright. A choice collection of hardy flowers came from Messrs. T. S. Ware, Ltd., Feltham, which contained a good collection of *Phloxes*, *Liliums*, such as *L. auratum rubrovittatum*, *L. tigrinum fl.-pl.*, and *L. t. Fortunei*; also a few good samples of *L. nepalense*, with its quaint flowers. *Gladioli* also formed a feature of this exhibit. The rock plants also proved interesting at this season.

Hybrid Java *Rhododendrons* were arranged in pots by Messrs. Jas. Veitch & Sons, Ltd. The varieties were numerous, and included most of their well-known varieties. The Maidenhair Ferns forming the groundwork enhanced the beauty of the display. The same firm also staged a table of hardy annuals, such as *Calliopsis* in variety, *Gaillardias*, *Candytuft*, *Scabious*, *Dianthus*, *Verbenas*, and *Larkspurs*; in every case the strains were undoubtedly good. A table of *Gladioli*, running the length of the hall, came from Messrs. Kelway & Son, Langport. The spikes were somewhat thinly disposed, but it was to the advantage of the individual varieties. Some of the best were Amor, Stasilius, Grand Rouge, Colossal, W. B. Child, Hannibal, Arthur Toms, Marchand, Oppius, and Eugène Sandow. The exhibit was one of the best seen from the firm.

Messrs. Vilmorin, Andrieux et Cie., Paris, staged a table of *Gladioli* running the length of the hall, and even then the space was far too limited, many of the vases being considerably crowded; at the same time the exhibit was worthy of the occasion. It would be out of the question to enumerate all the good varieties staged, but a few of the most striking were Fille de l'Air, Claude Monet, Rêve bleu, Depute Krantz, Mephistopheles, Mdle. Marie Galeslout, Deuil de Carnot, Abbé

Roncourt, Safrano, Helle, Dryade, Amitie, Carmen, La Parisienne, and Mont Shasta.

A grand collection of annuals were staged by Messrs. H. Cannell and Sons, Swanley, which included good strains of African and French Marigolds, *Brachycome iberidifolia*, *Dianthus*, *Phlox Drummondii* in variety, a capital strain; *Coreopsis*, *Asters*, *Sweet Peas*, and *Zinnias*. Messrs. J. Peed & Son, West Norwood, sent a fine collection of *Caladiums*, all of good colour and arranged with *Maidenhair Ferns*. The best varieties were *Louis Van Houtte*, *Amarante*, *Her Majesty*, *Madame Mitzana*, and *Lady Mosley*, though the whole collection was beautifully developed and of good colour.

A semicircular group of early flowering *Chrysanthemums* came from Messrs. J. Laing & Sons, Forest Hill. The varieties were chiefly *Lady Fitzwygram*, *Madame Desgranges*, *Mrs. Burrell*, and *G. Wermig*, while the edging was composed of *Flora* and *Piercy's Seedling*. Messrs. G. Jackman & Son, Woking, sent plants of *Lychnis grandiflora*, a variety with brick red flowers; *Lobelia syphilitica rosea*, a pretty form; and *Gilia aggregata*. A pretty display of *Gladioli* came from Mr. W. Bain, gardener to Sir Trevor Lawrence, all beautifully developed. Some of the most striking were *Jules Toussaint*, *Ocean*, *Edward Andre*, *General Duchesne*, *Colonel Kloff*, and *Henri Vanthier*.

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, J. G. Fowler, E. Hill, de B. Crawshaw, H. M. Pollett H. Little, F. Sander, H. J. Chapman, W. H. Young, H. A. Tracey, A. H. Smee, and F. J. Thorne.

Mr. H. Bacon, gardener to W. W. Astor, Esq., Cliveden, Maidenhead, exhibited a magnificent example of *Peristeria elata*. The specimen carried eight splendidly flowered spikes. Mr. A. Chapman, gardener to Captain Holford, Westonbirt, Tetbury, sent *Cypripedium Milo Westonbirt* variety, *Odontoglossum crispum* Countess of Morley, *Sobralia xantholenca*, *Dendrobium formosum giganteum*, and three grandly flowered spikes of *Dendrobium Phalaenopsis Schröderianum*. Mr. E. Kromer, West Croydon, sent *Cattleya aurea Jenseniana*.

Messrs. H. Low & Co., Bush Hill Park, exhibited a small collection of Orchids, including *Lælia elegans*, *Cattleya Eldorado*, *C. E. splendens*, and *Cycnoches chlorochilon*. Mr. T. Wilkinson, gardener to Mrs. Briggs Bury, Bank House, Accrington, showed *Cattleya Illuminata*, of which the parentage was not stated. Mr. H. A. Tracey, Twickenham, showed *Lælio-Cattleya elegans J. Davis*. Mr. G. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, showed a fine example of *Cattleya bicolor*.

Medals.

Fruit Committee:—Gold medal to Mr. T. W. McHattie; silver-gilt Knightian medal to Mr. W. Fyfe; silver Knightian medal to Messrs. G. Bunyard & Co.; silver Banksian medals to Messrs. J. Laing & Sons and S. Spooner & Son. Floral Committee:—Silver-gilt Flora medal to Messrs. Vilmorin, Andrieux et Cie.; silver-gilt Banksian medal to Messrs. Kelway & Son; silver Banksian medals to Messrs. W. Bain, Barr & Sons, Peed & Sons, J. Veitch & Sons, F. Cant & Co., H. Cannell and Sons, Paul & Son, M. Prichard, and T. S. Ware, Ltd.

Certificates and Awards of Merit.

Cattleya bicolor (G. Cragg).—This Orchid is too well known to call for any description (award of merit).

Cattleya Illuminata (T. Wilkinson).—A handsome hybrid after the style of *Atalanta*. The sepals and petals are creamy claret rather paler in the sepals; the splendid lip is rich crimson purple (first-class certificate).

Gladiolus Sir Evelyn Wood (Kelway & Son).—This is a grand

flower, both in size and in the rich crimson scarlet colour (award of merit).

Gladiolus Jules Toussaint (W. Bain).—The colour of this variety is very peculiar. It is white, rose, and purple in various portions (award of merit).

Gladiolus Ocean (W. Bain).—A blue flowered variety, blood red in the throat (award of merit).

Glycinea spectabilis fol. var. (Paul & Son).—A handsome Ribbon Grass for damp places, with silver variegated foliage (award of merit).

Gypsophila repens monstrosum (M. Prichard).—A large flowered variety of a well known plant (award of merit).

Lælio-Cattleya elegans J. Davis (H. A. Tracey).—A splendid variety. The sepals and petals are rich rose, and the lip is crimson suffused with purple on the front lobe (award of merit).

Odontoglossum crispum Countess of Morley (A. Chapman).—A chastely beautiful variety with well formed flowers. The colour is white with large chocolate spots and blotches.

Platycodon grandiflorum semi duplex (W. Bain).—A most handsome plant, producing semi-double purple flowers of large size (first-class certificate).

Strawberry St. Antoine de Padoue (W. Bain).—This variety is now becoming so well known that it needs no description. Some references to this and other perpetual Strawberries will be found on page 202 (award of merit).



FIG. 54.—CODONOPSIS CLEMATIDEA.

The Wireworm.

THIS is one of the most destructive pests of the garden, and is very difficult to eradicate. It is the larvæ of one of the click beetles—*Elatér*, or *Agriotes*. The grubs are called wireworms from their likeness in toughness and shape to a piece of wire. Like it they are very smooth and shining, and somewhat cylindrical. The colour is ochreous-yellow, turning to a darker tint after death.

The wireworms have three pairs of short legs, one pair of these being placed on each of the rings immediately behind the head, and they have also a sucker-foot below the tail. The egg from which this grub is hatched is laid either in the earth close to the root of a plant, or between the sheathing leaves near the base of the stem. On being hatched, the grub, or wireworm, eats into the stem just above the root, about an inch below the surface of the ground, and sometimes eats its way up the middle of the stalk, even above the surface of the earth.

The wireworms are said to live five years in the grub state, but the length of time probably depends on the supply of food. Where they are well fed, it is supposed that they only take about three years before changing to the pupa. But however

this may be, with the exception of any temporary pause in winter, they feed voraciously near the surface till the time has come to turn into the chrysalis (or pupa). Then they go deep into the soil, and form an earth-cell in which they change, and from which the perfect beetle comes up through the earth in two or three weeks, probably appearing about the first weeks of August; or they may pass the winter in this state, and the beetles develop from the chrysalis in the following spring.

Nitrate of soda is a good application to a soil containing wireworms, and if applied at the rate of an ounce to the square yard it accelerates the growth of most crops and plants. It is a good plan also to dress the ground with gas lime, one peck (level measure) per square rod, distributing equally over the surface, it being best applied in autumn and forked in. The ground should be forked over again in spring as soon as it is in working order, and again before putting in the crop. Gas lime must not be applied when the ground is cropped. It will drive

them away if not destroy them. Many may be destroyed by baits of Carrots or Potatoes buried in the soil 1 to 2 inches deep, which should be examined daily, and the wireworms that have penetrated the baits destroyed, re-inserting them in the soil. If the baits have a stick thrust through them, so as to serve as a handle, they are more readily taken up and examined.

Horticultural Shows.

Shrewsbury Floral Fête, August 22nd and 23rd.

READERS of the *Journal of Horticulture* would observe that we omitted any reference (page 185) to the vegetables and non-competitive exhibits owing to lack of space. These two sections, as was the case with those already adverted to, were of exceptional excellence. Amongst non-competitive exhibits were some of the handsomest arrangements of flowers and plants that have ever been seen, that of Messrs. J. Veitch and Sons being superb. In the vegetable tent Mr. E. Beckett made his bow to the Shrewsbury public, and secured three first and three second prizes with six exhibits—a fine performance when the prowess of several other growers represented is taken into consideration. We would, too, call attention to the fact that the introductory paragraphs in the fruit section referring to the decorative dessert table and the collection of twelve kinds of fruits (page 184) became transposed in making up the pages for press at a late hour on the day of the show. Readers, therefore, who may have been somewhat mystified in reading the report will find everything clear if they will make the necessary transposition in the paragraphs.

Vegetables.

It would not be easy to overpraise a large proportion of the vegetables that were shown on the present occasion. Practically all the most redoubtable growers were represented. Messrs. J. Carter and Co., High Holborn, offered six prizes for a collection of nine kinds, and the premier award went to Mr. E. Beckett, gardener to Lord Aldenham, Aldenham House, Elstree, who showed in magnificent condition Celery Standard Bearer, Leek Holborn Model, Cauliflower Extra Early Autumn Giant, Onion Ailsa Craig, Tomato Duke of York, Potato Snowball, Runner Bean Carter's Jubilee, Pea Model Telephone, and Carrot Scarlet Perfection. Mr. D. Gibson, gardener to J. B. Johnstone, Esq., Coombe Cottage, Kingston, was second; and Mr. T. Wilkins, Henstridge, third.

Messrs. Jones & Sons, Shrewsbury, offered four prizes for a collection of eight distinct kinds, open to growers in Salop, Herefordshire, Cheshire, and Wales. There were only two exhibitors, and Mr. H. Taylor was first, with Onions and Cauliflowers as his best dishes; and Mr. W. Dawes second.

Messrs. Sutton & Sons, Reading, offered six prizes for a collection of nine distinct kinds, and the premier position was assigned to Mr. E. Beckett for a perfect stand, comprising Cauliflower Magnum Bonum, Onion Ailsa Craig, Leek Sutton's Prizetaker, Ideal Potato, Pea Duke of Albany, Tomato Perfection, and Bean Best of All. Mr. J. Gibson, gardener to R. W. Hudson, Esq., Danesfield, Marlow, was second; and Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere, third.

Mr. E. Murrell, Shrewsbury, offered four prizes for twelve distinct varieties, and three prizes for six distinct varieties. In the larger class the prizewinners were Messrs. S. Bremmell, E. Walker, and B. Philpott, gardener to D. Robinson, Esq., Habberley Hall, in the order named. For six sorts Mr. J. Birch, gardener to Capt. H. L. Butler, Shotton Hall, Shrewsbury, was first; Mr. G. Chaunt, gardener to Sir C. Scotland, Chilton Grove, second; and Mr. J. Abbotts third.

Messrs. E. Webb & Sons, Wordsley, offered six prizes for a collection of eight distinct kinds; and Mr. J. Gibson was first with Cauliflower Early Mammoth, Celery Mammoth Red, Carrot Prizetaker, Onion Ailsa Craig, Pea Autocrat, Tomato Jubilee, Runner Bean Exhibition, and a kidney Potato. Mr. E. Beckett was a splendid second, and Mr. W. Pope third. The same firm also offered three prizes for a dish of Tomatoes selected from certain specified varieties. Mr. W. Pope was first; Mr. J. Martin, gardener to T. W. Swinburne, Esq., Corndean Hall, Glos., second; and Mr. T. Wilkins third.

Messrs. Pritchard & Sons, Shrewsbury, offered three prizes for a collection of six varieties of vegetables, and the premier position was awarded to Mr. J. Abbott, gardener to Mrs. Guise, Hadnall. Mr. J. Durnell, gardener to R. L. Kenyon, Esq., Pradoc, Oswestry, was second.

Mr. Robert Sydenham, Birmingham, offered special prizes in classes for Peas, Runner Beans, Cauliflowers, Carrots, Parsnips, Onions, Turnips, Tomatoes, Celery and Potatoes. Amongst the most successful exhibitors were Messrs. J. Read, Bretby, W. Pope, E. Walker, W. Leith, Ross, T. Wilkins, and W. Roe. In these classes Mr. Sydenham also offers a 15-guinea challenge bowl to the winner of the highest aggregate of points. This was secured by Mr. W. Leith, gardener to Col. Middleton, The Chase, Ross, with 36 points out of a possible 50.

For a collection of nine distinct kinds of vegetables, open only to the county of Salop, Mr. H. Huxter, gardener to J. B. Wood, Esq., Ludlow, was first with Solid White Celery, Ailsa Craig Onions, Autumn Mammoth Cauliflower, New Red Intermediate Carrot, Satisfaction Potatoes, Best of All Runner Beans, Cucumbers, Tomatoes and Peas. Mr. J. Birch was second, and Mr. W. Dawes third. There were five most creditable collections in this class.

In the several other vegetable classes, in which the prizes were furnished by the committee, there was some excellent produce staged, but lack of space precludes the possibility of our giving detailed notes. Prominent on the prize cards were the names of Messrs. T. Wilkins; G. Risebrow, Shifnal; S. Bremmell; T. Steventon, Wellington; G. H. Chaunt; J. Read; B. Ashton; J. Davis, Leominster; H. Huxter; W. Leith; W. Pope; G. Grimmer; J. Abbott; B. Philpott; J. Birch; H. Taylor; W. Jones, Market Drayton; E. Beckett; J. Stalker, Buildwas; J. Titley; J. Durnell; J. Clowes; and A. H. Hall.

A Judge's Comments on the Vegetables..

These products are always seen at Shrewsbury in great abundance, and of the best that the art of gardening can well produce, subject to the divergent natures of the seasons. I was both somewhat amused and surprised on being told by an esteemed gardener friend that my previous efforts in favour of obtaining less size and higher quality in vegetables would have to be repeated. I do not think that was just criticism. Of course there was more size in some directions than is pleasant to see, but so far as the open or leading classes were concerned it found no favour with the judges, and there can be no question but that quality is so far improved generally that there seems to be little room for advance by the best exhibitors; certainly there has been great progress as compared with the vegetable exhibits of a few years since. But such is garden cultivation that it is quite impossible to overlook its effects on vegetable production. The entire tendency has been, not only in culture but in raising varieties, to secure greater average size, combined with the best quality.

Take Onions, for instance. In these products we now see what can be described only as marvellous bulbs as compared with the earlier products of ordinary outdoor sowings. But then the result is due to our having a better appreciation of the Onion's capacity to produce large bulbs. When the conditions of culture are varied no one can say that the big bulbs now seen at shows are not, when ripe, as solid and mature as are the best of ordinary spring sown bulbs, but are of four times the dimensions. They are also, because so fully developed, even more handsome. If, then, we find in these massive Onions the very highest quality that the Onion is capable of producing, how can such excellence with size be ignored? But even in judging Onions I should not allow mere weight to dominate my award. We are entitled to look for perfection of form, for brightness, cleanness, evenness, and in collections of vegetables some average similarity to the size of the other products. These great Onions have most valuable edible uses, for baking or stewing, and are far more useful in that way than are big Potatoes, Carrots, Turnips, Beet, and other products, all of which are less suited for their forms of cooking than are those of medium size.

There was a small increase in the number of collections of vegetables staged at Shrewsbury over that of last year in competition for Messrs. Jas. Carter & Co.'s valuable prizes, eight lots competing in place of four last year. In the classes instituted by Messrs. Sutton & Sons and Messrs. Webb & Sons, also for valuable prizes, the former had nine competitors each year, and the latter seven. Thus in these three classes alone there were twenty-four collections, and a total of 209 dishes, presenting a fine display. The primary kinds shown were Cauliflowers, Carrots, Onions, Celery, Runner Beans, Peas, Potatoes, Tomatoes, Leeks, Cucumbers, and Beets.

Taking Messrs. Sutton and Carter's classes I found that all competitors had Carrots, Tomatoes, Onions, Potatoes, and Celery. All but one had Peas and Cauliflowers, two did not have Runner or any other Beans, four had no Leeks, and only a few had Beets, Cucumbers, and Turnips. Points as compared with those of last year show no great difference in relative excellence. Thus taking the first six who took prizes in Messrs. Sutton & Sons' class, the total points last year was 210, and this year 203½. Taking the first four competitors in Messrs. Carter and Co.'s class last year they were 139, and this year 141. I did not have the pointing of Messrs. Webb & Sons' class this year, therefore cannot institute any comparison. But the general result in any case is to show that average quality in the exhibits was about the same.

The judging maximum of points for each dish was 5, and it is interesting to note that in only four cases in each of the competitions was the maximum given, and that last year in both of these competitions the numbers were 6 each. There was a total of 15 4½ points, showing very near perfection; 35 of 4 points, 31 of 3½ points, 39 of 3 points, and about 18 had 2½ to 2 points each. The highest number of points awarded to one exhibitor in Messrs. Sutton's class was 36½, as compared with 40½ last year. In Messrs. Carter's class the highest this year was 39, and last year was 37, neither being the same exhibitor as last year. Still the figures show how even was the running, as the maximum of points is 45, and as the best six ranged from 39 points down to 34 it is evident there is ample room for improvement to enable the judges' maximum to be reached. Some time, with a better season, that great distinction may be won.—A. D.

Non-competitive Exhibits.

Messrs. B. R. Davies & Sons, Yeovil, sent a fine bank of double Begonias tastefully arranged with foliage varieties and Maidenhair Fern, which gave it a pleasing effect, and made a good exhibit. Messrs. Jas. Veitch & Sons, Ltd., Chelsea, exhibited a large collection of specimen Crotons, beautifully coloured, with Dracænas, Caladiums, Nepenthes, Palms in variety, and a few Orchids and Java Rhododendrons, all embedded in Maidenhair and other Ferns, with some choice foliage plants, making a grand exhibit; while the arrangement could only be classed as excellent. Mr. H. Eckford, Wem, made a large display of Sweet Peas, which were of fine quality and nicely arranged with Gypsophila, also some good Verbenas, Streptocarpus, Cactus Dahlias in variety, and a bright bronze Pansy called Lady Constance Bouverie. The Sweet Peas were of grand quality, and contained many of their new varieties, including Coccinea and the Hon. Mrs. Kenyon, to which first-class certificates were awarded.

From Mr. H. Pattison, Shrewsbury, came a large and representative collection of Violas, staged in the orthodox way; also a quantity in pots arranged with Maidenhair Fern, with a collection of Pansies as a front. Messrs. Harrison & Sons, Leicester, exhibited a good collection of hardy flowers, but the Asters and Sweet Peas were most notable, being very fine, while a collection of Egg Plants and Capsicums were novel. Vegetables were also staged in abundance. Messrs. Green, Ltd., Dereham, occupied a table 50 feet long with a grand collection of Dahlias arranged in mounds. The varieties used were Green's White, Red Rover, Mayor Tuppenny, Uncle Tom, and the Clown, while the general varieties left little to be desired, for the blooms were bright and fresh, with plenty of substance. Mr. S. Mortimer, Farnham, also staged a choice collection of Dahlias, the sprays of Cactus being especially conspicuous, while the Show and Fancy varieties were capital, the whole making an attractive exhibit.

Mr. J. B. Blackmore, Twerton-on-Avon, Bath, made a bright display of single and double Begonias tastefully arranged in Maidenhair and other Ferns. Mr. J. Forbes, Hawick, staged a fine table of hardy flowers. The Carnations were excellent, as were also the collections of Phloxes, Monarda didyma, and Lobelia Orion, in fact a good representative exhibit was made. A choice collection of choice Ferns came from Messrs. W. & J. Birkenhead, Sale; although the specimens were small they were well grown, and made a refreshing exhibit. Messrs. Pritchard & Sons, Shrewsbury, occupied a large bay with a miscellaneous collection, which was composed of Begonias, a quantity of Nertera depressa, Hydrangea paniculata, Crotons, Lilliums, and a variety of other plants, while a number of vases filled with hardy flowers had a pleasing effect. Mr. H. Deverill, Banbury, staged a fine bank of hardy flowers, in which the Phloxes, Gladioli, Montbretias, Coreopsis, and Gaillardias were striking; the whole exhibit was fresh and bright. Mr. J. H. White, Worcester, also contributed a display of plants and cut flowers. The Montbretias, Dahlias, Phloxes, and Gladioli, with Maidenhair Ferns, Asparagus Sprengeri, and Crotons made a worthy exhibit.

Mr. A. Myers, Sutton Lane Nursery, Shrewsbury, had a fine collection of Zonal Pelargoniums, both as specimen plants and small plants in 3-inch pots, which made a perfect blaze of colour. The Ferns and other foliage plants so freely used assisted in making a good exhibit, while a few boxes of cut blooms in front were excellent. Messrs. Dickson, Ltd., Chester, occupied a huge bank, 50 feet long, with a grand collection of Lilliums, Gladioli, Crinum, Helianthus, Gaillardias, and Rudbeckias, also a collection of Nymphæas, with a large number of Phloxes. The small Ferns, Palms, and other foliage plants were used judiciously to enhance the beauty of the exhibit. Mr. E. Murrell, Portland Nurseries, Shrewsbury, occupied a large bay with a pretty collection of Tea Roses in pots, Phloxes, and Ferns; also a capital display of cut Roses, both Hybrid Perpetuals and Teas. Messrs. Webb & Sons, Stourbridge, had a grand display of vegetables and flowers arranged most tastefully, the Gloxinias, Begonias, Asters, Gaillardias, and Sweet Peas being staged in great variety; the foliage employed for the display was effective, making a good finish, while the vegetables were worthy of the position accorded them.

Messrs. Jarman & Co., Chard, staged a collection of Gladioli, some boxes of Roses, and a good variety of Show and Cactus Dahlias, also a collection of fruit and vegetables. Carnations in boxes were staged by Messrs. Laing & Mather, Kelso-on-Tweed. The flowers were fresh and bright, and exhibited a great variety; the huge sprays at the back of the stand were particularly noteworthy, the whole comprising a fine exhibit. A capital display of Dahlias, chiefly of the Cactus and Pompon types, was made by Messrs. Jones & Sons, Shrewsbury. The arrangement was good, and the Ferns employed imparted a light and pleasing effect; the same firm also staged a large collection of Sweet Peas, which were well displayed. Messrs. R. Smith & Co., Worcester, filled a large bay with a collection of plants and cut flowers. The plants included Bambusas, Crotons, Palms, Lilliums in pots, and Begonias. The cut flowers were composed chiefly of a collection of Phloxes, Gladioli, Nymphæas, Rudbeckias, and numerous other plants.

From Messrs. W. Clibran & Son, Altrincham, came a table of Celosias, Crotons (in capital variety), Dracænas, Aralias, Anthuriums, and Ferns in variety, making a capital combination. Messrs. R. Hartland & Son, Cork, staged a large and choice collection of double Begonia

blooms, with a few Gladioli. The Begonias were excellent, not only in size, but colouring also; they were bright, fresh, and of good substance.

Messrs. D. & W. Buchanan, Forth Vineyards, Kippen, N.B., contributed three new Grapes, of which Diamond Jubilee was recommended for a certificate; while a new variety after the style of Madresfield Court, but having white berries with a flush of red at the tip, was stated to have received a first-class certificate and a silver medal; it was, however, quite unripe.

Chippenham, August 22nd.

THIS society's show, judging from the numerous entries and the large attendance, despite a stormy afternoon, increases annually in popularity. The competition was such that some of the open classes had to find accommodation in the adjoining amateurs' division. Very good prizes were offered for a group of plants, and this attracted a good entry as well as a good display. Mr. Perry, gardener to Capt. Spicer, Chippenham, was an easy first; Mr. Pymm, gardener to Mrs. Goldsmith, Trowbridge, second; third honours falling to Mr. F. Bihle, gardener to H.H. Prince Hatzfeldt, Draycot. There were two other competitors.

Mr. George Tucker's first prize Fuchsias were the admiration of the large influx of visitors, as also were his six stove and greenhouse flowering plants; Messrs. Pocock and Lawes sharing the Fuchsia prizes, and J. B. Woods & Son, Chipping Sodbury, and Hallet of Bath, those for specimen plants. Ferns were finely represented, A. P. Stancombe, Esq., Trowbridge, defeating Messrs. Tucker and Perry, both good Fern growers. Palms were contributed in three varieties by Messrs. Perry, J. B. Woods, and Cole & Sons. The best table plants were staged by Mr. Strugnell, the finest tuberous Begonias and Zonal Pelargoniums by Mr. Tucker. Table decorations made an extensive display, no less than eight competitors fighting for priority, Messrs. Garaway, Cole, and Davis, being the victors.

Roses and Dahlias were very good, the best thirty-six Roses coming from Mr. Hobbs of Bristol, Messrs. Garaway and J. Mattock of Oxford following. The same positions were held for twenty-four varieties. Mr. J. Walker, Thame, won with twenty-four Show Dahlias, Messrs. Cray & Sons, Frome, took first for both Cactus and Pompon varieties. Asters made a large show, as did also Gladiolus, herbaceous and other cut flowers.

Fruit brought out a large entry, and the quality throughout was of high merit. In the collection of eight varieties Mr. Strugnell was first, Mr. Perry, Spye Park, second; and Mr. Hall, Bath, third. Mr. Strugnell took first for both white and black Grapes, Mr. Bible, Cole and Son, and Mr. Perry being other winners. Peaches had several exhibitors with three dishes and also a single dish, and Nectarines and Melons, Pears, dessert and culinary Apples were numerous staged by several of those whose names appear above.

Vegetables, both in the amateur and open divisions, showed little signs of distress from drought, and the competition was keen and quality good throughout. District growers have a reputation of the open classes, with a good number added for their benefit, plants, cut flowers, fruit, and vegetables all being well represented. Cottagers, too, as is usual, contributed well from their gardens flowers, fruit, and vegetables. Honey and bees and comb, too, was an interesting section to many. Mr. W. Small is the hon. secretary, and he is indefatigable in his efforts to make the show a success in every respect, and is well supported by a large and influential patronage and committee.

Smethwick, August 22nd.

UNDER most unfavourable weather auspices the fifteenth annual show of this progressive society was held in a field adjoining the grounds of Smethwick Hall, with its ancient Jacobean domicile. The marquee containing the "groups of plants arranged for effect," specimen plants, ladies' table, and numerous other decorations, was blown down just as all was in readiness for adjudication. Yet, fortunately for the exhibitors of the plants, sufficient evidences remained to enable awards to be made according to their respective merits. The cut flower arrangements, however, could not be recognised. Fortunately the other two spacious marquees and their contents remained intact.

It is worthy of remark that fifteen years ago, in this busy manufacturing locality not a semblance of a horticultural society or of an allotment garden was in existence, when chiefly through the instrumentality of the present honorary secretary and treasurer (the Rev. George Astbury), the vicar of Smethwick, the society was started, and has attained to a position equal to several of its more favourably placed local compeers, and it is with especial pride that the energetic vicar adverts to the beneficent influences of the allotment gardens. In addition to the amateurs' and cottagers' classes prizes have also been offered for exhibits by gentlemen's gardeners, so as to enhance the attraction of the show; but on the recent occasion, as already stated, the show was shorn of a portion of its attraction by the inauspicious weather.

There were two groups of plants arranged for effect, and Mr. Alfred Cryer, gardener to J. H. Kenrick, Esq., Edgbaston, displayed one of his locally well-known artistic compositions, while the gardener to W. F. Varnore, Esq., Smethwick, contributed a creditable second. The Fuchsias, "Geraniums," and Coleuses, also the exotic Ferns of Mr. Cryer, were prominent features. Mr. A. W. Hulse's stand of Roses worthily won the premier prize. Cactus Dahlias were commendably exhibited by Messrs. F. Nobbs, S. Campbell, and E. Poulton, and the collections of Sweet Peas were tastefully arranged by Messrs. A. Campbell, J. Vicklin, and C. H. Thomas. A shower bouquet by Mr. S. Gibbs, gardener to J. B. Manley, Esq., was an object of much attraction; the same exhibitor also staged a very good collection of exotic and hardy fruits.

Vegetables were a leading feature, and no less than forty-eight collections by gentlemen's gardeners, amateurs, and cottagers, were in the majority remarkable for general excellence both in quality and arrangement. The competition was also keen and strong in the single dish classes, and the quality really left nothing to be desired, eliciting, as it did, the high eulogiums of the judges. In addition to the horticultural exhibits, there were a series of gymnastic performances, a water polo, and other aquatic exercises in the large pool adjacent, and a finale of fireworks.

Worsley, August 25th.

THE Worsley Agricultural and Horticultural Show was held last Saturday in the grounds of the Earl of Ellesmere. In the horticultural section it was at once apparent that the show was one of splendid quality. The two grand groups of plants arranged for effect by Mr. W. Elkin, gardener to Mrs. Agnew, Fairhope, Pendleton, and Mr. Upjohn, were undoubtedly the feature of the show, denoting skill and an eye for natural effect to a great degree. Mr. Elkin received the premier position, every plant being of quality, and no undue crowding. Mr. Upjohn had not quite the same material to work upon, but everything was placed to produce the excellent effect he gained. The smaller class group from Mr. J. Burrows, gardener to W. L. Bourke, Esq., J.P., was full of rich colour and much admired.

To attempt to enter into a description of the very liberal classes, to the number of 113 would be quite out of place, but there were several that could not possibly be missed. The exotic Ferns from Mr. Elkin were quite of the finest, and none the less so the British Ferns from Mr. W. Tyldesley, Hazlehurst, Swinton, which were quite a revelation for size and beauty of frond. The pots of *Lilium lancifolium* Krætzneri and *Melpomene* from Mr. Elkin contained hundreds of flowers quite superbly grown, and in many other classes did the same exhibitor show good judgment. The cut flowers made a fine feature, particularly the double, Cactus, Pompon, and single Dahlias from Messrs. C. Aldred, T. Doncaster, J. Pilling, and S. Mort. Mr. J. Burrows and Mr. Upjohn figured very largely in the plant classes.

Fruit was extensively shown, a most decided hit being made by Mr. Upjohn in the class for twelve. The dishes consisted of Muscat of Alexandria and Black Hamburg Grapes, Albert Victor and Pineapple Nectarines, Princess of Wales and Bellegarde Peaches, Violette Sepor Fig, Warrington Gooseberry, White Astrachan and Gladstone Apples, Beurré d'Amanlis Pear, Cherries, and a grand Melon. Mr. Elkin was placed second, also winning with fine Tomatoes. White Grapes were not finished, Muscats in all cases being shown, the prize falling to Mr. H. Shone, gardener to J. W. Makant, Esq., Gilnow Lodge, Bolton, who won also for blacks with two good Madresfield Court, Mr. Upjohn following with fine Appley Towers. The latter was well ahead with twelve varieties of vegetables.

Vegetables were capital. Herbaceous flowers and the wonderful colours of the popular *Gladiolus Childsi*, were handsomely staged by Messrs. Dickson & Robinson, and Messrs. Dickson, Brown & Tait, both of Manchester. A large stand of *Allamandas* beautifully arranged with Ferns came from Mr. Quinn, gardener to Slater Boddington, Esq.

Trade Catalogues Received.

- R. H. Bath, Ltd., Wisbech.—*Bulbs, Plants, and Trees.*
- W. Clibran & Son, Altrincham.—*Bulbs, Florists' Flowers, and Strawberries.*
- J. Cocker & Sons, Aberdeen.—*Bulbs.*
- F. Dicks & Co., 66, Deansgate, Manchester.—*Bulbs.*
- Dicksons, Ltd., Chester.—*Bulbs and Roses.*
- E. P. Dixon & Sons, Hull.—*Bulbs.*
- S. Dobie & Son, Heathfield Gardens, Chester.—*Winter and Spring Flowers.*
- Fisher, Son, & Sihray, Ltd., Handsworth.—*Bulbs and Flower Roots.*
- Kent & Brydon, Darlington.—*Bulbs and Trees.*
- J. Peed & Son, West Norwood.—*Bulbs.*
- A. Roozen & Son, Overveen, Haarlem.—*Dutch and Cape Bulbs.*
- L. Späth, Baumschule, Baumschulenweg, bei Berlin.—*Plants.*
- A. F. Upstone, Rotherham.—*Bulbs.*



Hardy Fruit Garden.

The Fruit Room.—Prior to storing any quantity of fruit a thorough cleansing should be given the store room. Any defects in the shelves or floor ought to be at once remedied, and the whole of the inside structure swept out. After this limewash the walls with fresh lime, and scour the shelves and floor. Free ventilation must be left on for several days for the structure to dry.

Gathering Fruit.—The varieties of Apples which should be frequently examined in order to gather the fruits before being fully ripe are Red Astrachan, Duchess of Oldenburg, Mr. Gladstone, Devonshire Quarrenden, Keswick Codlin, and Lord Suffield. Many fruits of Williams' Bon Chrétien, Citron des Carmes, Beurré Giffard, Souvenir du Congrès, and Jargonelle Pears will be found advanced enough for gathering. By picking them when they show the first indications of yellow, and storing carefully in a cool room, the season of ripe and delicious fruit is prolonged.

Protecting Ripe Fruit.—Morello Cherries will hang on the wall trees and keep well a considerable time if carefully protected with nets to ward off birds and baffle wasps and flies. Plums and Peaches are very tempting to the winged insects, hence if required to hang long they must be protected. Preserve bunches of Currants on the bushes by enclosing the latter in nets. Late Red Currants are best grown on north walls where nets can be hung in front of the trees.

Outdoor Vines.—The main rods or extensions on outdoor Vines must be kept well secured to the wall or trellis. The bunches of fruit require full exposure to light, and with the growths well tied in they receive it, likewise plenty of air. When black Grapes commence to colour it is no detriment to the ripening if the bunches are shaded a little by the principal leaves, but white Grapes colour best in the sun. If the soil is thoroughly moist give liquid manure freely, but to dry soil clear water only in the first place, and afterwards liquid manure or top-dressings of a general artificial fertiliser. Lateral growth should be kept in bounds, as it is important that side shoots or young canes be well ripened.

Assisting Fruit Trees.—The heavy crops of fruit now being carried by Apple, Pear, and Plum trees demand that adequate nourishment be forthcoming in the soil for the roots. Both Apples and Pears of mid-season and late varieties are still developing, and a little extra help with rich food will prove advantageous in improving the size and quality of the fruit still remaining to swell. As regards Plums little assistance can be derived from the soil for the present crop of fruit, but the nourishment given will be immensely useful in building up the fruit buds. It will also assist the buds of Apples and Pears, proving beneficial should they be receiving short supplies owing to the heavy crop of fruit. The drainings from stables and farmyards or the contents of sewage tanks can be employed if diluted with water to a safe strength. Pour it on the soil as far as the roots extend. This is indicated by the spread of the branches. The liquid can be distributed better if applied over a slight mulching of manure. Failing to obtain farmyard liquid or sewage, dry artificial manure 4 ozs. to the square yard, washed in with water, or solutions of guano 1 lb. to 20 gallons of water are excellent fertilisers. Young and vigorous trees making plenty of wood and not bearing heavy crops should not be given such fertilisers.

Strawberry Planting.—Strong well-rooted young plants can be obtained from most plantations, but preference should be given to those from established and fruitful beds, as only these prove reliable. The ground is moist now, so plants lift well, and are freely furnished with fibrous roots. A plot of ground should be selected that is open to the sun, and if possible has been dug and manured for a previous crop, which has been removed. In many cases the ground has to be prepared just previous to planting, but if this is necessary trench or dig deeply and manure liberally. Light soil should be made firm by treading well previous to planting. Lift the young plants direct from the spaces between the old plants, and transfer to lines on the newly prepared ground. The distance between the rows ought not to be less than 2 feet. Rows 2½ feet apart are better, the plants being 18 inches asunder. President, James Veitch, and Sir Joseph Paxton are vigorous growers. Royal Sovereign is a moderately strong growing variety, and adapted for general culture on a variety of soils. Vicomtesse Hericart de Thury is an old but prolific and reliable variety, and may be planted in rows 2 feet apart. Some of the newer and recently introduced varieties should be tried in limited quantity at first, so as to ascertain their adaptability for the soil. Good varieties in one place are not always so in another.

Strawberry Runners.—The clearance of runners from the old beds of Strawberries claims attention at this time, as the sooner they are removed now the better. When detaching them from the old plants

select the best of the rooted runners, after providing for present planting, and lay them in in nursery rows 6 inches apart, where they may remain until spring, then utilising them for forming new beds or filling up deficiencies in the autumn planted stock.

Wall Trees after Fruiting.—The careful nailing-in of the young current year's shoots close to the wall is essential in order to dispose the growths to the best advantage, and to assist the ripening up of the wood. These remarks apply mainly to stone fruits. The trees may also be well syringed, red spider often gaining ground during the time the fruit is ripening.

Fruit Forcing.

Cucumbers.—For producing these in the crispest and most acceptable form for table use there is nothing like young plants. Seeds sown on the 1st of September will do this at Christmas in light well-heated structures, under proper management. Too much strength cannot be got into the seedlings by keeping them near the glass. The seeds are best sown singly in large 60-pots, a little more than half filled with soil, and covered half an inch deep. Keep the plants near the glass, earth them as they grow, and transfer to 48's when they need a shift, placing a stick to each, to which secure the growth as it advances. Rub off the laterals as they show, training with a single shoot. They will be fit to plant during the first fortnight of October.

In the case of general crops shorter days necessitate closing the house earlier, also syringing sooner, so as to have the foliage dry before dusk. Fire heat will be necessary in cold weather to maintain a temperature of 70° to 75° by day and 60° to 65° at night. Keep the growths fairly thin, removing old shoots so as to make room for new ones, and thus provide a succession of bearing parts. Stop the shoots one joint beyond the fruit unless growth is wanted, then allow more extension, but avoid crowding. Encourage root action by a steady bottom heat of 80°, surface dressings of lumpy loam and sweetened horse droppings, and liquid manure in a tepid state whenever water is required. Do not allow the fruit to hang after it becomes fit for use, and avoid overcropping.

Autumn fruiting plants must be afforded every encouragement, stopping so as to insure an even spread of foliage. Remove the first fruits, also the male blossoms and tendrils. No shading will now be necessary. Avoid syringing in the morning, and only use the syringe on fine afternoons, then early and lightly, keeping the house damped as occasion requires. Admit air in moderation, draughts being avoided, as they chill and stunt the growths, and if no air be given the foliage becomes very thin and flabby, an excessively close, moist atmosphere inducing many ailments in Cucumbers. Seek, therefore, to encourage sturdy, thoroughly solidified growth, by early and judicious ventilation whilst opportunity offers, but without gentle fire heat this is hardly practicable at this season.

Plants for winter fruiting raised from seeds sown at the beginning of August will soon be ready to plant out. The house must be a light one, and have means of securing a temperature of 70° to 75° in all weathers, also of maintaining a bottom heat of 80° to 90°. The first consideration is to thoroughly cleanse the house. All soil previously used should be cleared out, and the whole of the interior scalded with hot water. This will make quick work of any fungoid and insect pests it reaches, besides softening the accumulated dirty deposits, which should be cleared from wood and iron work with softsoap, water, and a brush, cleansing the glass inside and outside with clear water, lime-washing the walls with fresh lime formed into a whitewash consistence with a solution of sulphate of copper, 1 oz. to 1½ gallon of water, and disinfecting the bed part with soluble phenyle, Jeyes' fluid, or cresylene, a wineglassful to 3 gallons of water, syringing it on the walls of the bed. Everything in other respects should be put into proper order. If rubble is used over and about the hot-water pipes for bottom heat see that the material is clean.

The plants in pits and frames will need to be trained thinly as a safeguard against damp. Watering must be done early and judiciously, as damp and cold soon injuriously affect the foliage and fruit at this late season. A light sprinkling may be given at closing time on fine afternoons, but water will not be much needed after this, or very little of it, the plants obtaining sufficient moisture through the decay of the fermenting material. The beds must be lined with stable litter, and a little air given at the back to allow of any steam escaping, the temperature being kept at about 65° at night. There will generally be some warmth from the sun in the daytime, and by employing a covering of mats over the lights on cold nights, with proper attention to the linings and care in management, Cucumbers will be obtained from these structures for weeks to come.

Peaches and Nectarines.—*Succession Houses.*—Trees that ripened their crops in July will have the buds plumped and the wood sufficiently ripened for the removal of the roof-lights by the early part of September. This is sometimes desirable when the buds become too prominent, and tends to counteract over-maturity of the buds or their premature development, or falling, by affording the trees the benefit of rains and of night dews. The borders become thoroughly soaked to the drainage by the autumn rains, which invariably have an invigorating effect on

the trees and in the preservation of the buds from dropping. It does not answer, however, to remove the roof-lights until the wood is well ripened, but over-maturity of the buds is a far greater evil than a moderate degree of prominence.

Trees that ripened their fruit this month should, as soon as the fruit is cleared, have the wood that has carried fruit not being extensions cut away, and any wood not required for next year's bearing or for extension of the trees also removed. Weakly and exhausted parts ought, as far as possible, to be cut out and the younger growths given the advantage of their place. This will keep up a succession of bearing wood capable of producing large fruits, admit of the freer access of light and air, and of the cleansing of the foliage by water, or an insecticide if necessary, it being important that the foliage be continued in a healthy state to as late a period as possible for the perfecting of the buds and the maturity of the wood and buds. There must be no lack of moisture at the roots, giving a good watering if necessary, or trees that are weakly will be assisted in plumping the buds and storing nutrient matter with liquid manure, not, however, in too powerful doses. Trees ripening their fruit will need water at their roots, and moisture must not be withheld from the atmosphere; an occasional damping of the floors or borders, especially on fine days, being necessary for the maintenance of the foliage in health.

If the weather be cold and wet, a genial warmth in the pipes, especially by day, so as to admit of a circulation of air, will be necessary for the satisfactory ripening of the fruit. A temperature of 60° to 65° at night will be sufficient, and 70° to 75° by day artificially, in order to insure a steady progress in ripening, air being afforded more or less constantly. If the fruit ripen too rapidly, as may be the case if the weather prove very bright, a shading over the roof-lights of a single thickness of pilchard net, or a double one of herring net, will break the fierce rays of the sun, and not only retard the ripening, but insure the fruit finishing more satisfactorily than when exposed to the direct rays of the sun.

THE BEE-KEEPER.

Queenless Skeps.

QUEENLESS stocks are more numerous than usual this season. When this takes place in frame hives it is much easier to detect than in straw skeps. When it is suspected the skep should be turned up and examined; a puff or two of smoke blown in at the entrance will be all that is necessary to soothe the bees. The carbolic cloth is also excellent for laying over the mouth of the skep when it is removed from its stand. If brood is found in various stages of development it will be a sure proof of the presence of a queen; but if no brood is visible, and the colony is weak in bees, the drones being nearly as numerous as the workers, it will be quite safe to consider the stock queenless.

Driving Bees.

We have on previous occasions given advice as to the best means of inducing the bees to leave straw skeps. It was formerly the universal custom to destroy the bees by placing them over the sulphur pit. The modern frame hive and the humane handling of bees have happily done away with much of this wholesale destruction of the condemned bees. Many bee-keepers are nervous at their first attempt at driving bees, but with a little practice they find it is not nearly so difficult as they supposed. For the benefit of new readers we will briefly state how it is done.

In the first place some driving irons are necessary; one should be quite straight, and the other two have about 1 inch at each end turned at right angles. The ends must be pointed so that they may easily penetrate the straw. The straight piece is used to fasten the edge of the empty skep to the one containing the bees and honey. The front of the empty skep is then lifted about 10 inches, and the two irons with the ends turned are used to form a hinge on each side of the two skeps by pushing the points into each skep, and thus holding them together. Rap the lower hive sharply with the hand, and the bees will run up into the empty skep at a rapid rate.

Should the bees not be inclined to start, a puff or two of smoke will soon cause them to do so. If there is much brood in the hive, or the weather is dull and cold, the bees will not leave their combs nearly so readily as when the temperature is high, and the sun is shining directly on them. As they run up a sharp look out should be kept for the queen, as it is an advantage to know she is safe with the bees in the empty skep. When the majority of the bees have passed, the comb may be at once removed, any adhering bees being brushed into the skep containing the driven bees.—AN ENGLISH BEE-KEEPER.

TO CORRESPONDENTS

All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Death's Head Moth (A. E. M.).—The insect is the larva of the Death's Head Moth (*Acherontia atropos*), about two-thirds of full size, rather larger in fact than we should expect to find it at the end of August. It was probably taken in a field of Potatoes, though the species does no doubt feed on other Solanaceous plants, such as *S. dulcamara* and *nigrum*. From creditable reports it has occurred in Privet, Jessamine, and the Tea Tree. It is one of our most interesting native moths; even yet there is somewhat of mystery belonging to it.

***Æschynanthus splendidus* (F. Rowe).**—This is one of the brightest plants that flower in the stove during the summer, and it is much admired. The genus appears to be somewhat neglected at the present time, yet some of the species are very valuable, especially by affording cut flowers for vases for room decoration. The plants are of easy culture; brisk heat, a very rough compost, and copious supplies of water being the chief points requiring attention. *A. splendidus* (fig. 55) is of more upright growth than the majority of the species. The colour of the flowers is bright orange scarlet, deepening to vermilion with purplish crimson lobes.

Disqualifying a Stand of Hardy Flowers including Annuals (W. A. S., Swanley).—Many times have we stated in these columns that a complete schedule of the show should be sent where disqualifications have occurred when inquiries are made respecting them. The intentions of the committee can often be obtained from some parts of a schedule, but not in the least from a snip of two lines such as you send. A class set forth as "twelve bunches of hardy flowers," without any qualification in any part of the schedule would, on the authority of the Royal Horticultural Society, "include every imaginable hardy flower" (see page 34, "Rules for Judging," second edition, 1s. 6d.; 117, Victoria Street, S.W.). The offending flowers in your disqualified stand appear to have been Sweet Peas and "the annual Jacobea."

The question of "hardiness" now comes in as the determining factor. A hardy plant is one that passes safely through the winter without any protection, growing and flowering in due season. This the Sweet Pea certainly will do, and some of the first prize flowers at the Conference Show at the Crystal Palace were cut from plants that were raised from seeds sown in the open ground in September of last year, and afforded no sort of protection during the winter. Sweet Peas, then, as being undoubtedly "hardy," would be admissible in the stand. As to the "annual Jacobea," we do not know exactly what you mean. If it is one of the varieties of *Senecio elegans* we should doubt its hardiness. The growing and flowering of plants in summer from seeds sown in the open ground in spring is no proof that a plant is hardy. This can be done with Ten-week Stocks, China Asters, French Marigolds, and other half-hardy annuals; but they will not pass the winter safely if sown outdoors in the autumn after the manner of Sweet Peas and several other really hardy annuals. If your "Jacobea," whatever it may be, will pass without protection safely through the winter from seeds sown in the open ground at any period of the year, it would then be a legitimate "hardy" flower, and admissible in a stand of such flowers. If it would not survive that test the stand would be open to disqualification. Will the so-called "hardy annual" *Senecios* sown outdoors in the autumn survive the winter in the same manner as Sweet Peas?

The Blue Pea (P. B. B.).—The Blue Pea is known botanically as *Lathyrus sativus*. It is one of the prettiest and most distinct of all the annual Peas of ornamental character. It is an old plant in gardens, and yet many persons have never seen it, although it is universally admired by all who chance to see it covered with its clear blue blossoms. Its culture is of the easiest. Seeds sown in drills or clumps in March produce plants which flower in July, and continue in bloom until late in the autumn. All the attention required after sowing is to stake each clump with a few bushy twigs about 2 feet in height. The three to four seeded pods are curiously winged along the back. This species has long been grown in South Europe as a forage plant, but its beauty ought to guarantee it a welcome in all good flower gardens.

Gloxinias from Leaves (Tyro).—The propagation of Gloxinias from leaves is very simple. Fill some pots or boxes with a light compost, covering with a coating of silver sand; press it firmly, and see that it is properly moistened. Next decide on the varieties you are desirous of increasing. Select the old leaves or those fully matured for the purpose. A sharp knife is then required to cut through a juncture of the main veins, choosing the largest for the purpose. The leaf should then be laid flat on the surface of the pot or box; at each spot where it is cut place a stone sufficiently heavy to keep the leaf flat on the surface. Another method is to take small leaves, and insert them in

pots by the petiole or stalk. The pots and boxes must be placed in a warm structure, where roots will soon form, and by the end of the autumn small tubers, which must be saved till next season. As they are very small many people keep them in the pots all the winter, and repot them as soon as they start in the spring.

Propagation of *Coleus Verschaffelti* (C. N. M.).—The cuttings should be inserted now, taking off the growing points about 3 inches long, and inserting singly in 3-inch pots. They will root readily in a temperature of 70° if kept close, moist, and shaded. When the roots reach the sides of the pots the *Coleuses* should be transferred to 6-inch pots, taking out the points of the shoots, and be kept in a house with a temperature of not less than 50° at night during the winter, giving no more water than enough to keep the plants fresh. In March you may make cuttings of every available shoot, and in a hotbed they will speedily root. When they are rooted shift them into larger pots, keep them well stopped so as to have them bushy, and encourage growth by affording plenty of heat, moisture and light, either in a frame with a gentle heat, or in a house ranging from 55° to 60° at night, and 70° to 75° by day, and 80° or more from sun heat, admitting air freely. By May they will be fine plants. Harden them gradually, and do not plant out before the first week in June.

Burning Clay (K. C. S.).—The mode of raising and burning is as follows:—A strip of land is broken up in very dry weather. The earth is thus broken, or it may be said torn up in immense rough masses or clods, as much as a



FIG. 55.—ÆSCHYNANTHUS SPLENDIDUS.

man can carry, which are admirably adapted to form walls and supports for the mass of fire. By this means heaps of nearly 200 solid yards may be readily burned. The earth being broken up the fires are formed on the spot, the workmen placing a certain quantity of dried stumps of wood of sufficient solidity to maintain a body of heat, and enclosing the mass with large clods. These are carried by hand; subsequently, as they get more distant from the fire, a barrow is used, and beyond that a one-horse cart. It is important to have the sides of the heap as upright as possible, not conical, because the heat always makes for the highest place. An important point in burning is to supply the fire sufficiently fast to prevent its burning through, and yet avoid over-laying it, which might exclude all air, and put it out. Practice will indicate the medium. When the fire shows a tendency to break through, the outside of the burning mass is raked down and more earth added. If the ground is very dry, and no rain falls, the men are obliged to feed the fire almost constantly night and day; but when there is moisture it may be left for five or six hours, but seldom longer. Something depends on the current of air. A strong wind would blow the fire from one side and out at the other. This is guarded against by placing hurdles interlaced with straw as a guard to windward. The size of the heap is limited by the height to which a man can throw up the soil, and, of course, the diameter must be proportioned to the height to prevent its slipping down.

Fruit Trees for Centre Bed of Span-roof Peach House (*Hale's Early*).—Providing the Peach trees do not occupy the roof so as to shade the bed Fig trees in pots would answer, the fruit ripening in a first crop about the same time as the Peaches or a little later, and a second crop would ripen towards the end of summer. If, however, the roof of the house is so occupied with the Peach trees as to shade the bed, Fig trees would not succeed, as they cannot possibly have too much light, and the space would not be suitable for any other fruit crop, even Tomatoes in such positions being very liable to spot. We have known Cape Gooseberry thrive fairly well, but really all fruit trees require unobstructed light, hence do not succeed in the shade of others.

Yellow Thrips on Chrysanthemums (*Grower*).—There is no better remedy for thrips than tobacco juice, diluted with water to a safe strength. The point is to kill the insects, which may be effectually accomplished by dusting the affected parts with tobacco powder, and syringing it off the following morning. The difficulty is to reach the insects, which we presume are safe in the unfolded leaves. If you find any trouble in procuring the powder, obtain some strong shag tobacco, place in a vessel and pour over it 1 gallon of boiling water to every 4 ozs. Cover with a cloth, let stand until cool, then strain, and dip the point of every shoot in the decoction, making sure that all the parts are wetted. If the insects be on the under side of the leaves, lay the plants on their sides over a vessel or tray and syringe them with the tobacco water on the under side, turning over so as to reach every part.

Alpine Strawberries (*F. J. B.*).—These require the same treatment as to manuring the ground and general culture as Strawberries generally. They are best raised from seed, which if sown in a pan in any light earth in March, and placed in a mild bottom heat, will come up in a few days, and should then be removed to a cold frame to harden off. If due attention be paid to watering the plants will grow rapidly, and when of sufficient size to transplant they should be planted out in beds, allowing 1 foot between the plants every way. Seed sown in spring usually furnishes plants for late autumn bearing, and the runners of the previous year planted in March or April bear abundantly early in autumn. The ground in which they grow should be well watered in hot dry weather, otherwise they cease bearing and become weak. It must be kept moist in order that they may bear constantly. An excellent article on Strawberry St. Joseph will be found on page 202.

"Spot" in Carnations (*Anxious*).—The leaves are infested with "spot" fungus (*Septoria dianthi*), which is pushing here and there minute growths through the epidermis, in the centres of the spots. These are the fruiting conceptacles, which, when ripe, will open at the apex and liberate an immense number of spores. The best remedy would be to remove all the spotted leaves at once, and burn them; but if numbers are affected, removing the leaves may make the plants too bare and weaken them too much, and other measures must be adopted. As the filaments are within the leaves, the conceptacles must push through the epidermis before you can assail them effectively, and it is best done by spraying with Bordeaux mixture, or sponging the plants with dilute permanganate of potash. This will destroy the spores, and passing into the ruptured parts will prevent the production of more. Afford the plants a light position, keep water from the foliage, and give abundance of air, for the fungus develops in damp muggy weather, and by thorough cleanliness, removing all bad leaves and providing a free circulation of air, it will either be prevented or checked in advance.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless *A ples* and *Pears* sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (*H. F.*).—Figs: 1, Brown Turkey; 2, Brunswick; Apples: 1, Court Pendû Plat; 2, Duchess of Oldenburg; 3, Irish Peach. (*B. R.*).—1, Scarlet Nonpareil; 2, Roundway Magnum Bonum; 3, Blenheim Pippin; 4, Ecklinville; 5, Emperor Alexander; 6, Cox's Pomona. (*J. F., Putney*).—1, Jargonelle; 2, Windsor; 3, Louise Bonne de Jersey; 4, Marie Louise; 5, Beurîé d'Arenberg. (*A. T.*).—1, Red Astrachan; 2, English Codlin.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*B. L. G.*).—1, *Scabiosa caucasica*; 2, *Prunella vulgaris*; 3, *Bocconia cordata*; 4, *Celsia arcturus*. (*M. F. H.*).—1, *Staphylea pinnata*; 2, *Rhus cotinus*; 3, *Escallonia macrantha*. (*T. B. H.*).—1, *Begonia metallica*; 2, *B. weltoniensis*; 3, *Calystegia pubescens flore-pleno*; 4, *Nolana prostrata*; 5, *Malva moschata*; 6, *Solidago virgaurea*. (*H. H.*).—1, *Buddlea globosa*; 2, *Artemisia vulgaris*; 3, *Fuchsia fulgens*; 4, *Francoa ramosa*. (*W. B.*).—7, *Spiraea Lindleyana*; 8, *Rhus typhina*. (*G. H.*).—*Rubus ulmifolius flore-pleno*. (*R. A. C.*).—1, *Linaria pallida*; 2, *Sedum Aizoon* var.; 3, *Verbascum nigrum*; 4, *Bupthalmum salicifolium*; 5, *Lysimachia clethroides*; 6, *Veronica spicata*.

Covent Garden Market.—August 29th.

Trade very dull.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bushel ...	2 6	5 0	Nectarines, doz. ...	1 6	to 9 0
" cooking, bushel ...	1 6	3 0	Oranges, case ...	10 0	25 0
Figs, green, doz. ...	1 6	3 0	Peaches, doz. small ...	1 0	2 0
Grapes, black ...	0 6	2 6	" doz., good size ...	6 0	9 0
" white ...	1 6	3 0	Pears, per case of 36 ...	0 0	4 0
Greengages, box ...	0 4	1 6	" " 48 ...	2 9	3 3
" sieve ...	4 6	6 0	" " 56 ...	2 0	2 3
Lemons, case ...	10 0	30 0	Pines, St. Michael's, each	3 0	8 0
Melons, house, each ...	2 0	3 0	Plums, $\frac{1}{2}$ bushel ...	2 0	3 0
" water, per case ...	3 6	5 0	" Californian, per case	6 0	9 0
			" common, $\frac{1}{2}$ bushel	1 0	2 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	to 2 0	Leeks, bunch ...	0 1 $\frac{1}{2}$	to 0 0
Beans, French, sieve ...	2 0	3 0	Mint, green, doz. bunches	2 0	0 0
" scarlet, per bushel	2 0	3 0	Mushrooms, lb. ...	1 3	1 6
Beet, red, doz. ...	0 6	0 0	Mustard and Cress, punnet	0 2	0 0
Cabbages, tally ...	3 0	5 0	Onions, Dutch, per bag ...	4 0	4 6
Carrots, doz. bunches ...	2 0	3 0	Parsley, doz. bunches ...	2 0	0 0
Cauliflowers, doz. ...	1 0	3 0	Peas, English, per bushel	0 0	5 0
Celery, bundle ...	1 0	1 9	Potatoes, cwt. ...	3 0	5 0
Cucumbers, doz. ...	1 6	3 0	Shallots, lb. ...	0 2	0 3
Endive, per score ...	1 6	0 0	Spinach, bushel ...	2 0	0 0
Herbs, bunch ...	0 2	0 0	Tomatoes, English, per lb.	0 2	0 4
Lettuce, doz. ...	0 9	0 0	Turnips, doz. ...	2 0	3 0
" Cos, score ...	0 6	2 0	Vegetable Marrows, doz. .	0 6	1 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	1 6	to 2 0	Marguerites, doz. bnchs.	2 0	to 4 0
Carnations, 12 blooms ...	1 0	2 0	" Yellow doz. bnchs.	2 0	4 0
Cattleyas, per doz. ...	6 0	12 0	Odontoglossums ...	3 0	4 0
Eucharis, doz. ...	1 6	2 6	Pelargoniums, doz. bnchs	2 0	4 0
Gardenias, doz. ...	1 0	2 0	Roses (indoor), doz. ...	2 0	4 0
Geranium, scarlet, doz. bnchs.	4 0	5 0	" Red, doz. ...	1 0	2 0
Lilium lancifolium album	1 0	2 6	" Safrano, doz ...	1 6	2 0
" rubrum	1 0	2 6	" Tea, white, doz. ...	1 0	3 0
" various ...	2 0	3 0	" Yellow, doz. (Perles)	1 0	2 6
Lily of the Valley, 12 bun.	15 0	18 0	" English:—		
Maidenhair Fern, dozen			" La France, doz. ...	1 0	2 0
bunches ...	2 0	4 0	Smilax, bunch ...	2 0	4 0
Mignonette, doz. bunches	1 0	2 0			

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	to 24 0	Foliage plants, var., each	1 0	to 5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	" pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each	2 6	5 0
Azaleas, various, each ...	2 6	5 0	" pink, doz. ...	12 0	15 0
Boronias, doz. ...	20 0	24 0	" paniculata, each	1 0	3 6
Cannas, doz. ...	18 0	0 0	Lilium Harris, doz. ...	8 0	18 0
Orotans, doz. ...	18 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	8 0	12 0
Erica various, doz. ...	8 0	18 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	" in var., each	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
Ferns, var., doz. ...	4 0	18 0	Roses, per doz. ...	6 0	18 0
" small, 100 ...	4 0	8 0	Stocks, doz. ...	8 0	12 0
Ficus elastica, esp. ...	1 6	7 6			



The Paris Exhibition Agriculturally Considered.

WE have often regretted our school days. We were not exactly idle, but we might have been more diligent, and we now, when far too late, see our errors. We had French enough to just pull us through certain exams, but not enough to make us at ease when with or among French people. Perhaps none but those who have really lived abroad ever do get thorough command of the Gallic tongue. The French are more vivacious than ourselves, and we find it hard to follow them in their rapid utterances. We have just had great reason to wish our French were better rubbed up, and the reason is not far to find. We wonder how many of the visitors to Paris from July 1st to July 7th had any idea of the great agricultural congress then being held—only the initiated we expect. These international congresses are not new things. M. Méline established the first in Paris as far back as 1889, since when there have been five meetings. The Hague, 1891; Brussels, 1895; Buda Pesth, 1896; Lausanne, 1898; and this year of grace at Paris. M. Méline was, we may add, Minister of Agriculture some time back. M. Jean Dupuy being the present minister. We were represented by Sir E. Clarke of the "Royal," Mr. R. A. Yerburch (of village bank fame), Mr. Long, and Mr. Lloyd (we need not add their qualifications), and Mr. Ernest Godfrey. American and Canadian agriculture were well represented. The various countries of Europe sent their representatives and exhibits.

Meetings and lectures filled the time well, but nevertheless there were many excursions to be made to places of interest, and also large private farmers fraternising with the visitors were most kind and hospitable. It is always pleasant to see new modes of work, and nothing could have been of greater interest than the visits paid to these French farmers. It was here we wished we had paid more attention to our French grammar when at school. There were so many questions one would like to have asked, so many observations to make, and the courtesy of friends is tried when we stumble along and eke out by signs our very poor attempts at colloquial French.

Well, what was there in the exhibition itself of interest to us as farmers? There is a cheese now pretty well known in England as Camembert, and it is made in great quantities at the little Norman town of Orbec: here are made 6000 cheeses daily, and in the exhibition was a model of this cheese manufactory. You see all the processes from the curd to the fully ripened cheese, and Professor Long thinks we English might take up the work, and so considerably increase our revenues. Of course a venture of this sort would have to be on the co-operative plan. Then there was a model of the farm of Grande Villiers en Brie, from which the milk of 175 cows is delivered direct to Paris in wide mouthed sealed bottles. Then there is another exhibit of articles in imitation of ivory, but made of the caseine of milk. The best disposal of old milk has been a puzzle to many. One man advocates young pigs, another would use it in the manufacture of bread, and another, again, by adding cod liver oil would make an excellent and nutritious food for calves.

Naturally in France one expects to hear of Beet and its various uses—sugar and alcohol—and the influence of manures on the production of sugar and alcohol. Then, again, the Paris Cabb Society have been trying experiments with regard to the rations for their horses. They have not got down to the proverbial straw a day, but they appear to have hit on the best proportions, and there is no feeding at random. Russia sends specimens of wholesome and diseased food. Many a young housekeeper would be sadly non-plussed had she to distinguish between best and moderate meat and fresh or stale fish. We hope our inspectors keep diseased meat out of the shambles; but we still fancy there is a good deal of meat sold "under the rose" which would not bear strict investigation. The American representative, Major Alvord, brings with him dairy appliances, and examples of dairy production. It appears milk is now utilised in the manufacture of weatherproof paint, and there is also a large working model of the Libby packing house at Chicago, tiny men killing and cutting up tinier animals. From Hanover Square is a collection of cereals, and photographs and plans illustrative of the Rothamsted experiments. Messrs. Garton, of Newton-le-Willows, Lancashire, are also exhibitors, and the British Dairy Farmers send cheese. There are other models, most interesting and instructive, among which we may mention the works of Huntley and Palmer, Guinness of Dublin, and Colman of Norwich.

Just a word before we pass on. It is practically decided that the Royal Show is to take up permanent quarters in or near London. Now with fixed buildings there ought to be something in the form of a museum, a place where models of interesting processes might be seen. The worst of it is that such a building would have to be elastic. The idea once started would grow like a Mushroom, but would be as enduring as an Oak. Living object lessons are always valuable, and we hope to see the day when the "Royal" has a museum only excelled by the "British."

The Congress met to talk, and they managed to hear and discuss something like ninety-eight papers. The subjects were divided into seven heads. 1, Rural Economy; 2, Agricultural Instruction; 3, Agricultural Science; 4, Live Stock; 5, Agricultural Industries; 6, Southern Cultures; and 7, Useful and Injurious Animals. Our Sir Ernest Clarke gave an address on British Breeds of Live Stock, which was greatly appreciated, for he not only spoke in French but illustrated by means of the magic lantern. We must not forget the pleasant excursion to the great sewage farm on the outskirts of Paris, where bad sandy land has been turned into a veritable Eden. Then there was the visit to the large corn and Sugar Beet farm in the Canton of Long Jumeau; but perhaps the best outing was to the home of those noted seedsmen Messrs Vilmorin, Andrieux et Cie. Mons. Philippe represents the fifth generation, and there was much of the deepest interest to see in the experimental plots. The proceedings wound up by a banquet given under the presidency of M. Méline at the Hôtel Continental, and the Congress broke up with mutual expressions of good will and fellowship.

Before we close these few notes we should like to mention a fact that has recently come to our knowledge. How many of our readers have seen the ponderous tomes, well bound and well illustrated, issued by the American Agricultural Department? They are a vast improvement upon anything English that we have seen, and it appears 5000 copies are printed and distributed gratis among leading agriculturists of this and other lands. We do nothing so public spirited, for the books are of great value, and form in themselves a perfect encyclopedia of agricultural knowledge. The full account of the Paris Congress is also printed, and has been sent to English friends, excellent reading, but slow work with only a dictionary to help.

P.S.—A word to the young. Gain what knowledge you can of foreign tongues, and do not let your knowledge get rusty for want of use.

Work on the Home Farm.

Five beautiful sunny days have given excellent opportunity to get on with harvest, and nearly all the crops are now cut. Very little, however, has yet been led, and a day's heavy rain has now come to cause further postponement. Not so much harm was done to the sheaves by the previous wet weather as we had thought, but being tightly bound with string they have dried slowly, and the middles of them are only just getting into condition. The rain has cleared off and there is a brisk wind, so we hope to soon see the waggons again on the move. The crops that have been led have bulked in a very disappointing fashion. The 5 and 6-acre fields of the smaller holdings have produced miserably small stacks, and opinions as to the yield are of a very despondent nature. Barley must fall far below expectations. With a small bulk and thin steely grain the yield will be small, and crops of 2 to 3 qrs. will be far too common. Wheats are better; the straw has cut up fairly well, although the sheaves are short, and the grain being plump and heavy, previous anticipations may be realised.

Self binders have worked wonderfully well where good work was in any degree possible, but some fields were so much broken and laid by the storms that mowing by hand would have been the most suitable way of reaping them had the requisite men been available, but in the default of the necessary man we have had to do the best we could with the reapers, and by dint of fetching some and running round only two sides of other portions we managed to get the work done somehow. The stubble is not, however, so neat and tidy as we should like to see it, but we must not worry ourselves with looking at it.

A satisfaction is the very prosperous condition of the young Clover plant; this is far better than that of last year, and is really very good indeed. Poorly set pieces are as few and far between as good ones were then. As seeds may easily vary 30 per cent. an acre in value, to say nothing of the difference to the prospects of the following crops, we think we are justified in classing them as the most important item on a mixed farm. Lambs are doing well again, and will do so if the weather keeps fine and dry. Cabbages have increased greatly in size since the wet weather, and will take a great deal of consuming. Thousand-heads are simply immense, and will not be fit for stock for some time. They are too rank and washy at present. Turnips will be above the average in many places, and there is already a boom in the sheep trade. Store sheep, especially breeding ewes, will be very dear after there have been liberal threshings of corn. Farmers were hard hit last season, and ready money is scarce. Coal keeps getting dearer, and wise were those who laid in a supply last month sufficient to cover winter requirements. On a modern farm steam occupies such an important place that the coal bill is no insignificant item.

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Journal of Horticulture.

THURSDAY, SEPTEMBER 6, 1900.

Nectarines in the Open.



Y that apparently vague title is meant the growing and ripening of Nectarines in the open air without the aid of walls. If this can be done, as probably it can be, over a large extent of country in the majority of seasons, then a great and important step in advance will have to be registered in the popularity and widely extended culture of this choice, beautiful, and delicious hardy fruit.

Should it happily come to pass that Nectarines of the first size, colour, and quality can be grown on espalier, bush, and standard trees, in the same manner as Plums, and with the same degree of certainty as most of the varieties of these familiar fruits, what will be the result? Clearly that where one owner of a garden that is favoured with a "south wall" can grow his own Nectarines, a hundred at least other owners of gardens, who have no such walls, can have a supply of rich, sprightly, and luscious fruits.

A proposition of that kind, if it had been made twenty years ago, would have been regarded as of the nature of a wild dream. At that period there were not wanting gardeners who were fully impressed with the idea that the seasons had changed so much that Peaches and Nectarines could no longer be grown in the time-honoured method against open walls, but only under glass, and with the aid of artificial heat. In positions where these fruits failed, where they had in the old times succeeded, the failures were not the effect of changed seasons, but of changed methods. Moreover, this can be said without any general reflection on the capacities of gardeners—a fact that is sometimes forgotten. It is the result mainly of the enormously greater demands in various other ways—largely decorative—that in the course of time became common in connection with gardens, and in which, in nineteen cases out of twenty, no extra labour was allowed, but more often restricted. Under such circumstances something had perforce to be

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neglected or done in a slipshod manner, and it is then a simple impossibility that everything can be done well.

Now, just as no general and permanent change of seasons, for the worse, brought about the comparative failure of Peach and Nectarine culture against walls, of which so much has been heard in the present generation, so, also, has no converse change of weather for the better brought about the possibility of growing those fruits over large areas of the country without any walls at all. There has, indeed, been a change, and an all-important one, that has enabled this to be done, but it has nothing to do with the "seasons." The sequel is to be found in a change of varieties, that and nothing more. And here let a well deserved tribute of recognition be paid to the late Mr. T. Francis Rivers for the services he has rendered to the fruit growing and consuming population. Years must elapse before the real value of a new variety of fruit can be generally appreciated. It was so in the case of his seedling Nectarine Lord Napier, but this is now, so to say, grown both under glass and on walls everywhere. His more brilliant and precocious Early Rivers and Cardinal met with quicker recognition. It is Early Rivers especially, and others of similar character, that are likely to bring the cultivation of Nectarines within the means of thousands of persons by planting trees in warm positions, training them to stakes or wires as espaliers, or simply growing them as open bushes on short or tallish stems after the manner of Plums. But what evidence have we that they will succeed in ripening their crops in that manner and in what localities?

It would be seen in the report of the last meeting of the Royal Horticultural Society (page 206) that Mr. Charles Turner of Slough showed Early Rivers Nectarines and a small tree that produced them; also that Messrs. James Veitch & Sons exhibited specimens of the same variety, also Précoce de Croncels from trained trees growing in their open nursery at Langley. Though that evidence was tangible enough, the writer of these lines was not a witness of it; but he is able to describe something that he did see, and not less conclusive—namely, the bearing trees in the Slough Nursery, and it would doubtless be the same in the trees over the line at Langley, though he had not then heard of them.

In respect of the splendid fruits of Early Rivers Nectarine that ripened fully in the open nursery quarters in August, it must be said there had been no "getting up for exhibition" by special means. The trees were two years trained to stakes in ordinary nursery rows running nearly east to west; they had neither received protection in the blossoming period, nor any artificial shelter whatever to expedite the ripening of the fruit. The crop on most of the trees was a full one, but the bulk had been gathered; yet here and there a branch was studded with as fine specimens both as to size, colour, and quality as anyone need wish to see. They were far away from any wall, and had no sheltering trees above or near them. It was a perfectly genuine example of open ground culture, exactly the same as was generally accorded to Plums and other hardy fruits. But the significant point is this: the Nectarines ripened before all but the earliest Plums. So did Waterloo Peaches, which were over and gone, while Hales' Early was ripe and richly coloured. For open ground trials, however, only the first early Nectarines, such as Early Rivers and Précoce de Croncels, should be tried. Cardinal is said to be more suitable for growing under glass. Peaches for the open are Alexander or Waterloo. They are not quite the same, though one is often sold for the other. They do not cast their buds in the open, but ripened their fruits perfectly in the part of Buckinghamshire indicated.

What about their ripening in other districts? As regards climate, alone, it may be said with confidence that all the Nectarines and

Peaches above described will ripen at least as soon and as well as will Victoria, Magnum Bonum, and Jefferson Plums; indeed, sooner. Another comparison may be given—namely, wherever such Nectarines as Pineapple, Pitmaston Orange, and Victoria, or such Peaches as Barrington, Bellegarde, and Noblesse will ripen on walls, the precocious varieties previously named will ripen in a warm, sheltered, and sunny position in the open in the same garden and district. Let them be tried, but there is something besides "climate" to be considered. The present season cannot be described as a tropical one. It was hot enough in July, but we had one of the wettest and coldest Junes on record, and an almost autumnal August, yet the Peaches and Nectarines named ripened in the best style, and of superior quality.

We must now look for other influencing causes. An important factor was, no doubt, the hot summer of last year, and the consequent firm growth and wood maturation. But, and this leads to another, and what may be termed a concrete essential—soil. This in the nurseries mentioned, and most others in which fruit trees assume a firm and fertile character, is much less rich and much more firm than in the majority of private gardens. Now, let this be remembered: A deep, rich, loose soil is antagonistic to the well-being and fruitful habit of our choice stone fruits. That is why we see so

many rampantly growing and unproductive Peach, Nectarine, and Apricot trees; therefore in planting the choice varieties of these named in the open, if the soil is rich, light and loose, add some of a stronger nature, incorporating lime rubbish and dry wood ashes, then tread all as firm as a board. It cannot be too firm, provided it is at the same time porous. Such stations induce a mass of fibrous roots; keep these near the surface by a mulch of good manure applied in early summer, to remain there till the fruit is gathered, and the growth made will not be sappy and fruitless, but sturdy, firm, and floriferous.

Two other cardinal points must also be rigidly attended to. 1, Prevent insect infestations; 2, Prevent overcrowding the summer growths. Note particularly the two preventives. They are a thousand times better, besides being far cheaper and easier than allowing the evils to occur, then trying by frantic and futile efforts to cure them. By applying insecticides periodically

before insects appear there will be none to kill; and by timely disbudding there will be no wild thickets of barren growths. Let the sun shine through the trees, for it is the real agent of fruitfulness.

As to protecting the blossoms of open ground Nectarines, which are, perhaps, more valuable than Peaches, is a question of judgment. Mr. Turner says, "If left to chance they will bear as certainly as Plums." This may be so, but Plums often fail, and it would be easy to provide movable umbrella shaped shelters for standards and bushes, and suitable forms for espaliers; but there is danger in over-protection—i.e., heavy and continuous coverings when not really needed. The blossoms are later in expanding in the open against walls, and that is often an advantage.

I am reminded by a close observer that birds do not peck out the buds of Peaches and Nectarines in the same way as they treat Plums. Is that because there is a trace of prussic acid in them, this abounding in the leaves of Almonds as well as in the kernels of the fruit, and may not be quite eliminated from their ennobled congeners, the luscious downy Peach and its richer smooth-skinned offspring the Nectarine?

Let all who will, or can, try the innovation propounded by growing these esteemed fruits on the lines indicated, pruning them like Morello Cherries, and whether they succeed or fail send the results to the *Journal of Horticulture*. Hundreds of persons ought to succeed. Procure the varieties true from those nurserymen whose names are well known and reputations established. This is mentioned because of a case known to the writer of a number of now magnificent trees in a large house being "all wrong," to the great disappointment and loss of the owner.—AN OLD FRUIT GROWER.



FIG. 56—ODONTOGLOSSUM ADRIANÆ COUNTESS OF MORLEY



Odontoglossum Adrianae Countess of Morley.

ORCHIDS were extremely scarce at the meeting of the Royal Horticultural Society held in the Drill Hall on the 28th ult., but one or two were of exceptional merit. Mr. A. Chapman, gardener to Captain Holford, Westonbirt, Tetbury, exhibited about half a dozen plants, amongst which were the handsome *Cypripedium Milo* Westonbirt variety (see *Journal of Horticulture*, November 30th, 1899, page 469), and *Odontoglossum Adrianae* Countess of Morley (fig. 56). This is a very charming variety, with flowers of fine form and considerable substance. The prevailing ground colour is creamy white, with spots, bars and blotches of chocolate at frequent intervals over the whole of the surface. The Orchid Committee showed its appreciation by recommending an award of merit.

Scuticaria Keyseriana.

THIS *Scuticaria*, "G. Lingard," was introduced from the Roraima district a few years ago, but it does not appear to have found its way into many collections. It has the same habit as the other species, *S. Steeli*, *S. Hadweni*, and *S. Dodgsoni*, which are all South American, the leaves being several feet long, cylindrical or quill-like, and pendulous; the flowers (fig. 57) fleshy, with broad petals and sepals heavily spotted with purplish maroon on a yellowish ground; the lip broad, open, and streaked with a similarly dark colour on a lighter base. The plant is a handsome one, owing to the clear, well-defined markings.

Cypripedium Stonei.

THIS Orchid Slipper is worth a place in all gardens where these popular flowers are appreciated and the requisite heat can be provided. Imported and small partly established plants are cheap, and therefore within the reach of all. The scape carries two or three flowers, according to the strength of the plant. These rise well above the dark green foliage, and last a long time, either cut or upon the plant. The flowers are much more useful for cutting than is the case with many kinds of a heavier nature, of which *C. Parishii* may be noted as an example.

C. Stonei does well, in fact grows luxuriantly, in a stove where a general collection of plants is accommodated. The amount of heat, shade, air, and moisture usually given to these plants where properly grown, appears to suit this *Cypripedium* exactly. It should be grown in a pot or pan liberally drained, and in a compost of fibrous peat and sphagnum moss in equal proportions, with charcoal in lumps freely intermixed. It will also grow freely in fibrous loam, sand, and charcoal, but this compost is only safe in the hands of skilful cultivators, for it is liable to become sour quickly. Peat fibre from which the particles of soil have been removed will last in good condition for at least two years. The system of potting that will be recommended may be safely followed with certainty that the compost used is in a perfectly sweet condition about the roots of the plant.

The secret of growing not only this, but all *Cypripediums*, is to retain the medium in which their roots are working sweet and healthy. The pots or pans used should be at least three parts full of drainage, carefully arranged with the hollow side downwards, and over these a

thin layer of living sphagnum moss. Peat fibre will answer the same purpose, and this is preferable on account of its lasting qualities. The pot, almost level to its rim, should be filled entirely with peat fibre and charcoal, carefully worked amongst the roots, no moss being used. The remaining portion, or all that is placed above the rim of the pot, should consist of the peat fibre, sphagnum moss in a living state, and charcoal, mixed together, with a good layer of the moss on the surface, which should be induced to grow freely. By this method of potting, the moss, which decomposes in a season, can be picked out every spring just as growth commences and new supplied. The moss need only be removed the first season after potting, and the fibre as well the following season—that is the whole above the rim of the pot. This will insure the roots, or at least the majority of them, being in perfectly fresh sweet material until the plants require repotting or larger pots,

which will be the case after the second year if they grow and do well. When repotting them every particle of the compost used should be removed from amongst the roots and replaced with new, which will insure the plants remaining perfectly healthy provided the other treatment is satisfactory.

While growing this plant requires abundance of water both over the foliage and at the roots; in fact at no season of the year should the material about the roots be allowed to become dry. Great care must be exercised not to apply cold water direct from the main, either to the foliage or the roots, or the foliage of this variety will spot, which disfigures them. The foliage should be kept perfectly free from insects, and grown in a winter temperature of 60° to 65° by night, with a rise of 5° or 10° by day. During summer the night temperature should range from 70° to 75°, with a corresponding rise of 10° or 15°, or even more by sun heat after the house has been closed. —A. S.



FIG. 57.—SCUTICARIA KEYSERIANA.

Notes from Ireland.

BIG with promise came the summer of the passing century; now, as autumn rapidly approaches, hopes deferred have slowly but surely become fears realised. True it is that circumstances bring this more forcibly home to the farmer than to the gardener, for the latter may possibly find sufficient satisfaction to balance sad reflections. The garden and the field, however, are very near, so near (in Ireland, at least) that duties which commence in the one only end in the other, so gardening and farming often go hand in hand, and no amount of fruit will compensate for damaged hay, bad Potatoes, and rotting corn. The ultra luxuriance of the most important crops has been their downfall, as electric forces opened wide the flood-gates of heaven and the burden of

waters saturated the land. With such stern facts daily presented to one's mind in some shape or form it is difficult to prevent notes being monopolised by them to the exclusion of brighter things in strict relation to the garden.

As we are now trimming up the Strawberry beds pleasant recollections prevail of the marvellous crop which commenced ripening early in June. Fruit of Royal Sovereign from last year's runners was simply superb, and Strawberries generally through the county of Dublin were quickly transformed by sunshine and shower from snowy sheets of bloom into what is now but a happy memory. General observation, rather than personal experience, can also bear witness to satisfactory conditions with bush fruits generally. Apples and Pears, too, have swelled up under the late abnormal rainfall into bright, handsome fruit. From farther afield good reports of the fruit crops are to hand. Mr. Bedford, writing from Straffan, Kildare, says,

"Gooseberries were the heaviest crop I have ever seen, and Red and White Currants the finest. Apples, Pears, and Plums are heavy crops, but insect pests are terrible with the three last named fruits."

Apropos of Mr. Bedford's last remark, personal experience can endorse it, inasmuch the passing summer has been what our kitchen garden foreman calls "a holy terror" for insects in the vegetable quarters, and it has been a fight to a finish among the legions of "beasties." First in the field was the Onion fly, such an attack as we have never had before, and hope to never see again. On a hot morning in May (the 17th) the Onion plot appeared black in the distance, and closer investigation found the fly in possession, whilst here and there handfals were emerging from the ground in the larvæ stage. It looked a hopeless case, but we fought 'em with a heavy application of nitrate of soda, watered in immediately, and finished 'em the following day with a solution of softsoap and dusting of dry soot. Not an Onion was lost, and an excellent crop is now in evidence. With Carrots, unfortunately, victory went to the grub; they were too "slim" for us, although similar remedial measures were employed, and the finish was entirely in their favour. On our porous subsoil top crops appeared to enjoy the soaking of rain except French Beans, which bore their ablutions badly; Canadian Wonder in particular, relied upon for a midseason crop, turning at the flowering stage to a sickly yellow hue, and making a break in the supplies, which, happily, Scarlet Runners have filled. In the flower garden tuberous Begonias seem to have thoroughly enjoyed the repeated drenchings, and never have they better emphasised their value as brilliant bloomers. The tuberous Begonia has indeed been the one redeeming feature in most gardens where floral formality is still looked for to break up and brighten breadths of greensward.

With Potatoes comes the most serious aspect of the season in Ireland. In early summer the noble tuber never looked better under garden or field culture; now, some who saw the dire visitation of 1847 say that the ravages of the disease will equal it. From the Straffan rain record kindly furnished by Mr. Bedford, I find that on the seven days ending August 3rd over 5 inches of rain fell; July 27th and August 2nd being jointly responsible for $4\frac{1}{4}$ inches. From this period Potatoes of all kinds (with one exception), and under all phases of culture have provided a sickening spectacle, the more so, perhaps, as the midseason crops were unusually abundant. The one exception is Robertson's Champion the Second, a comparatively new kind, a breadth of which was lately seen in the middle of a field bearing green and robust foliage in marked contrast to the varieties on either side, which had completely succumbed to the disease. The benefits of spraying have this year been sadly discounted by the heavy and almost continuous rainfall, of which, returning to the Straffan tables, we find that June, with twenty-four days on which rain fell, gave a total of 5.92 inches; July, with fifteen days, 4.15 inches; and the first ten days of August, on each of which more or less fell, 4.83 inches.

With this abnormal rainfall, in turning from Potatoes to a brief review of crops generally, it seems, if possible, going from bad to worse. On visiting a pretty place early in August, situated on a terraced bank of the Liffey, the newly formed kitchen garden at its base was found to be engulfed in the overflow, from which the tallest tops of rows of Peas emerged as landmarks. To cut short, however, a tale of woe, which would include the misdoings of the lordly Shannon in bearing on its bosom hay crops to the sea, with the disastrous effects of the weather on the corn crops of Dublin and Kildare, it is in a measure pleasing to note from the press reports that the western seaboard of Ireland has escaped the worst as here depicted; but the year of promise is undoubtedly passing away sadly short in its performance, and it was to have been, to quote an oft-repeated expression, "a great year for Ireland." In one way it has, the Queen's visit standing out in high relief against the darker traits which now pervade it. Whether the tourist crop which was to follow in sequence, with all its benefits to boot, has been as heavy as was expected is very doubtful, for in spite of natural beauty to attract it, the blight of baksheesh still hangs, like the Potato rot, over the beauty spots of Ireland. Gardeners on pleasure bent in the Green Isle, and our English gardeners would find much in it to please them, have, of all men, the frugal mind, and are apt in returning to make pertinent if awkward inquiries. "Why should I," said one, recently returning from Killarney, "pay six times as much for a glass of milk in the land of the Kerry cow as I do in London?" And echo answered, Why?—K., *Dublin*.

Fruit in Monmouthshire and South Wales.

(Concluded from page 195.)

THE next place I visited was Llantillio, where to my mind the pruning of the trees had been done far too hardly, with the result of a fine crop of leaves, but a small one of fruit. Many people, I think, prune their fruit trees too closely, for the sake of securing an effective-looking tree, whereas the true object to be aimed at should be an effective-bearing one, and it requires far more than an ordinary amount of patience, skill, and perseverance to combine the two effects in one and the same tree.

I next visited Brynderi, which is in a somewhat exposed position, especially in the winter months. In the kitchen garden my attention was drawn to several Apple and Pear trees upon which experiments had been made in root-pruning, with the result that nearly the whole of the trees were dead. They had apparently been lifted and the soil entirely shaken out of the roots, which had then been shortened with a chopper. There are different methods of root-pruning, and this had evidently not been one of the best. On the southern side of the hill the orchard or standard trees appear to have fared better, and many of them were carrying heavy crops of fruit. After this I went to Crossash, and thence to the top of Skenfrith Valley: this is very close to the borders of Herefordshire. And here I must pause, for words fail me when I attempt to describe what I saw in this beautiful valley. On one side of the road, and often on both sides, the orchards extended for a distance of about two miles, laden with crimson and golden fruit. Hundreds of trees had to be propped to prevent their breaking with the enormous weight of fruit. Much of the fruit was used for making cider, especially at the upper end of the valley, whilst lower down, nearer the river Monnow, large quantities of the better varieties were grown.

The last place I visited in this district was Hilston Court, which is in a somewhat exposed situation. The gardens are surrounded by a high wall. Here I found a large number of aged specimens of dwarf Apple and Pear trees, many of which, the gardener assured me, were over a hundred years old. Some of them, especially the Pears, were bearing heavy crops. In the grass orchard I found some of the finest fruit of Yorkshire Beauty Apple I have seen this year.

I next visited the gardens belonging to the Right Hon. Lord Tredegar at Tredegar Park, near Newport, where the soil is not so favourable for fruit culture as in other parts of the county. Some years ago nearly the whole of the trees in these gardens were standards worked on the free stock, and these, rooting down into the gravelly subsoil, became cankered. Many of them have been removed, and young trees worked on the dwarfing stock have taken their place. The present gardener, Mr. Bone, has at considerable trouble carted a large quantity of red loam on to the fruit borders, and lifted the dwarf trees to a much higher level, for the purpose of keeping the roots from the gravelly subsoil, and this year some excellent fruit has been grown, some of which is exhibited to-day. I do not wish to speak of my own orchards, except just to say that most of my permanent trees are on the dwarfing stock. The whole of the ground is cultivated and kept free from weeds. The soil is of a good loam, in one part approaching to red clay. The trees are vigorous in growth and bear good crops of fruit. Bismarck and Lane's Prince Albert do remarkably well, the success being much greater on the Paradise stock than on the Crab.

One of the things which struck me very forcibly in the remote and out-of-the-ways parts of the country was the difficulty of finding a ready sale for the fruit, and also the want of a better method of gathering and packing for market. I have thought that possibly something might be done to remedy this state of things by establishing a good fruit market in one or more of the largest towns, and also by encouraging the farmers to grade and pack their fruit in such a way that it would find a more ready sale. At the present time the greater part is sold to dealers, who go round the farms at gathering time and generally purchase the whole of the crop for a lump sum. This does not apply to the districts near to good markets; in these places growers take a few hampers regularly as long as the fruit lasts, and retail them in small quantities to their customers.

A great deal of the success of fruit growing in Monmouthshire is due to the kindly feeling existing between landlord and tenant. Of nearly the whole of the owners of large estates it can be said that they dwell amongst their own people, and no effort is spared to make the tenants comfortable in their homesteads. On nearly every estate trees are supplied to the tenants, the only condition being that they should take care of them. One of the best of landlords that it is possible to find we have in the Right Hon. Lord Tredegar, a name that is honoured wherever it is known; in the Monmouth district, too, we have the Right Hon. Lord Llangattock, another splendid

Sandringham Horticultural Society.—Mr. G. J. Ingram, the secretary of the institution, informs us that Mr. A. MacKellar has forwarded a donation of £5 from the Sandringham Horticultural Society in aid of the funds of the Gardeners' Royal Benevolent Institution.

specimen of the nobility of this country. Nearly the whole of the land is let on yearly tenancy, and the same families have been known to occupy farms to the fourth generation.

There are two names connected with fruit growing in the county which I ought to mention, the first that of Pillinger, nurseryman, of Chepstow, whose business dates back to the year 1779, and is at the present time carried on by a member of the family; and that of James Sanders of Abergavenny, which also dates back about a hundred years. The present proprietor is Mr. Philip Shaw, who has kindly supplied me with much information. There is not the slightest doubt but that many of the larger and better of the old orchards were planted by these firms.

Much of the good work in the past, too, can be traced to a better class of agricultural labourer, who was formerly to be found in country districts, and it is surprising what an amount of work such men have done. In some places I have found traces of miniature nurseries, where the Crab stocks raised from the woods have been planted and grafted with the varieties which best succeed in the neighbourhood. Many large orchards have been planted and kept up in this way. I remember one man whom I knew many years ago; he was only a farm labourer, whose ordinary clothing was a smock frock, and yet there are several large orchards which owe their origin to this man.

At the present time much interest has been taken by the Technical Instruction Committee of the County Council in endeavouring to improve the state of things in the county and throughout the whole of South Wales. Instruction in the planting, pruning, and general management of fruit trees is given in nearly all the villages, and during the past two seasons lectures and demonstrations in cider making have been delivered in many places.

I have already referred to one or more of the local varieties of Apples, but there are many others, some of which may be heard of at some future date. One that is only known in the district where I live is very similar to Bismarck. Another (and I do not think anyone can beat this for a name) is called Afal bach coch y Vandra, or The little red Apple of the Vandra. It is a very heavy cropping variety, but its best recommendation is its long-keeping qualities.

Before bringing my paper to a close I should like to add a word or so as to the filling up of vacancies or the renovation of old orchards. I know this is contrary to the advice given by some, but I want you to remember that we live in the hilly districts of South Wales, and that we have not, as you have in many parts of England, thousands of acres of level country suitable for the formation of fruit plantations. The sites chosen by our forefathers have been the very best on the holding, especially with regard to soil and shelter. I consider it far better in such a case to go to the expense of carting fresh soil to give the trees a good start, than to lay out an altogether new orchard in a far more exposed situation where the soil may not be so suitable. For many years I have carefully marked the results of such renovations, and I have no hesitation in saying that where the work has been done well such results have been quite satisfactory. — (Paper read by Mr. J. BASHAM before the Royal Horticultural Society.)

Platycodon grandiflorum semi-duplex.

It has long been acknowledged that Sir Trevor Lawrence's garden at Burford Lodge must be a veritable treasure house of novelties, for from one or other department thereof excellent plants are constantly being shown, and with equal regularity being honoured by the committees of the Royal Horticultural Society. On the occasion of the meeting held on August 28th at the Drill Hall, one of the most conspicuous exhibits was from Mr. W. Bain, gardener to Sir

Trevor at Burford. It was a number of flowering branches of *Platycodon grandiflorum semi-duplex* (fig. 58); the superb semi-double rich purple flowers of which attracted an exceptional amount of attention from the public as well as the Floral Committee; the latter recommended a first-class certificate. The flowers on the growths were from 3 to 4 inches across, but these were secondary ones, the central blooms being evidently too far gone to be shown.

Alnwick Seedling Grape.

THIS Grape has been shown in very fine condition this season, and at Shrewsbury and elsewhere the bunches were magnificent. Its well known fault—that of not swelling properly—prevents its being always produced in the best condition by private growers on a small scale, and I have seen it in one or two places this season so badly done as to be a disgrace to the grower. Yet with a little care it is very easy to get a proper set of berries, and if it is grown at all this care ought certainly to be given.

I have frequently had splendid bunches of Alnwick Seedling without artificial fertilisation, but it is not to be depended upon. The work of fertilisation may, however, be greatly lessened by thinning the flowers before they are open. At first sight this seems wrong practice, inasmuch as the more flowers there are open at the time these are setting the more pollen there will be. But it is not the absence of pollen that prevents this fine Grape setting, as most growers are aware, and anything that tends to strengthen the principal flowers will have a good effect upon the setting. This the early thinning undoubtedly has, and besides strengthening the flowers it leaves them

farther apart, so that air plays more freely about them, drying the pollen early in the day and insuring the loosening of the capsules.

These remarks may appear hardly in season just now, but those who take an interest in their crops will not object to them. A more seasonable question is how to lay on the colour that is such an ornament to this fine variety. From fear of cracking thin-skinned sorts too many growers fail to give the requisite moisture to black Grapes at the finishing stage; yet in the best places nowadays it is not unusual to see the hose running on the borders where Madresfield Court, Foster's Seedling, and other noted sorts are finishing. Free extension of the laterals at the expense of trimness prevents any injury being done, and the berries, having ample supplies to draw



FIG. 58.—PLATYCODON GRANDIFLORUM SEMI-DUPLEX.

upon, do not finish prematurely and crack afterwards. This point is worth considering by all who wish for the best results, and unfortunately it must be said, by those who have the ample supplies of water necessary, for more Grapes are ruined by want of water at the roots than excess.

Some may object that the use of so much water will render the use of too much fire heat necessary in order to keep the atmosphere dry, but there need be no fear on this account. Vines that are well nourished use up a lot of atmospheric moisture, even at the time of finishing, and the colour on Grapes that are growing on such Vines does not so rapidly disappear as when the last energies almost of the plant have been spent to lay it on. The less fire heat the better for black varieties I admit, but with healthy Vines and good ventilation one need never be afraid to use enough of it to keep the atmosphere buoyant, and the air moving about the berries. At least such has been my experience even with such varieties as Black Hamburgh which loses colour so easily.

What is true of black sorts generally is true of Alnwick Seedling, and with a moderate crop, free lateral extension without crowding, and attention to the details above mentioned, no one ought to have unsightly bunches of it in their houses.—H. R. RICHARDS.

Gathering and Storing Fruit.

THE fruit cultivator may easily spoil his chances of securing good samples of fruit by a negligent and haphazard way of gathering and storing. Damage sustained by the outer skin or epidermal tissue of the fruit results in decomposition setting in, and this very often quickly spreads to the surrounding tissue, and eventually to the whole fruit. Such fruit, too, coming in contact with sound examples will cause the same decomposition of the tissue. The utmost care, therefore, is necessary in gathering the best and soundest specimens. The cultivator must educate himself in observing when is the most suitable time for detaching the fruit from the tree.

It will often be noticed that all the fruit on a tree, whether good cultivation is carried out or not, is not of the same size, hence it will neither be fully developed nor ripe at the same time. The better, however, the tree is managed as regards the regulation of growth, the thinning of the fruit and attention to the roots, the more even will be the crop in the size of the individual specimens. The largest and most promising fruits ought then to be ready for gathering at the earliest date according to the season of the variety.

There are certain well-known tests employed in ascertaining the fit condition or otherwise of fruit to be gathered. The test most apparent to the eye is the change of colour in the fruits of Apples and Pears. In the case of the earliest varieties of Pears the slightest yellow tinge is sufficient indication that the fruit may be gathered. It may not, and in most cases will not, be ready for eating, but it is ready for storing in a warm dry place in order to promote the necessary chemical changes—that is, the conversion of the watery acid into rich and delicious sugary sweetness. Early Apples may hang on the trees for a longer period, or until the ripening tints of the outer skin are becoming quite pronounced, but they ought to be gathered before they are three-quarters ripe. The rest of the time necessary to finish them may be spent in the store room, a little warmth, but plenty of fresh air, being beneficial in completing the change. Another test of fitness for gathering is in the colour of the pips or seeds. When approaching ripeness the seeds will be brown or black, but this test can only be applied as indicating the condition of fruits of the same average size. It is, nevertheless, a good test, especially for the later varieties. Another excellent test is that of the stalk separating easily from the spur on being lifted to a horizontal position.

It is desirable to gather the fruit when dry, and in doing so to avoid bruising it, or moving it about more than can be helped. For the choicest and most valuable fruit, baskets lined with soft material should be employed, and the fruits laid in them in single layers; also when finally stored in boxes, trays, or on shelves, single layers are the best. The material used for laying the fruit upon ought to be clean, dry, and of a non-absorbent character. Taints or smells of any kind are easily transferred to fruit, and spoil the flavour. Some of the early varieties of Apples and Pears it is desirable to ripen quickly after being gathered may be placed in boxes of sweet hay, and kept in a warm temperature. Damp or musty hay will not do; nor will straw of a similar character. Upon the whole, however, and for general storing when the fruit has to remain some time, hay and straw is the worst possible material to place fruit upon. In the dull damp days of autumn it will absorb atmospheric moisture, and retains it long enough to cause a musty and disagreeable odour, which rapidly pervades the fruit.

Plain deal shelves varnished over are the best for laying fruit upon. If the fruit or store room has brick or stone walls these should be lime-washed. Provide ample ventilation, as when fruit is first stored a considerable amount of moisture evaporates from it. Frequent examination of all stored fruit ought to be made, removing at once unsound specimens to prevent them contaminating other fruits. A dark room is better than a light room, and the temperature should, if possible, be kept equable: 45° in winter is suitable.

When it is desired to accelerate the ripening of a few fruits those which are in a most forward state may be selected, placing them in a higher temperature for a time. By these means the season of any particular variety may be prolonged. The flavour, too, of many varieties is improved by the acceleration. Apples should be stored in a separate part of the fruit room, away from Pears. The earliest gathered fruits ought to have the warmest parts, while the later gatherings are accorded the cooler positions.—E. D. S.

Notes on Figs Under Glass.

In the earliest Fig house the trees may be in pots or planted out. The former is much the better for securing very early Figs, as the trees are more under control, and selection can be made of the most promising for yielding a first crop, which is much the more valuable, dishes of ripe Figs in April being prized, as fresh ripe fruit is not then plentiful, and there is always a charm in variety at dessert. The house should be light, airy, and well heated. A low, three-quarter span-roof house facing the south is best with a pit for holding fermenting material, such as Beech, Spanish Chestnut, or Oak leaves, which give off a moist genial heat and moisture over a long period, greatly reducing the necessity for fire heat and more suitable for the Fig trees. Those intended for early forcing in pots may be placed outdoors when the wood is ripe, but they must not be so treated if there is any doubt of this, keeping them under glass with a free circulation of air. These are matters on which the cultivator will need to exercise his judgment. In either case encourage surface roots by dressings of manure, rough loam, and a sprinkling of superphosphate. See that those placed outdoors do not root from the base of the pots, cut off all roots that have passed into the plunging material, top-dress, after which give a good watering, and they will need no more water than suffices to keep the foliage in health.

In the case of the earliest forced planted-out trees they will now be ripening their wood, and watering may be discontinued, air being given very liberally. If, however, the second crop is not yet ripened, moderate moisture in the soil will be necessary, with a free circulation of warm air to secure quality in the fruit. When the fruit is off prompt measures should be taken to destroy insects.

Planted-out Fig trees not infrequently grow rampantly, and consequently produce thin crops of fruit. In such cases lifting and root-pruning should be resorted to, and the roots confined to a narrow border 3 to 4 feet in width, or not more than one-third the breadth of trellis the trees are to occupy. A trench taken out at this distance from the stem down to the drainage after the fruit is gathered, will check the tendency to a late growth, assist in the ripening of the wood, more particularly if the growths are thinly disposed, and the points of the shoots instead of being closely tied in are allowed to grow up to the glass. If the drainage be defective it will be necessary to lift the trees in the autumn as soon as the leaves commence to fall, and replant in fresh compost. Place in 12 inches of drainage, rough at the bottom and fine at the top, placing on this 2 or 3 inches thickness of old mortar rubbish free from laths and other pieces of wood, smashed, and sifted with a half-inch sieve, using that remaining in the sieve, the finer material being suitable for mixing with the soil to the extent of one-sixth. Turfy loam, inclining to the strong rather than light, forms a suitable rooting medium, provided it contains a fair amount of gritty matter, preferably calcareous gravel, or have added to it a sixth part of old mortar rubbish.

Where obtainable a bushel of wood ashes may be mixed with each cartload of loam, and a peck of half-inch bones. Other enriching materials may be added and mixed with the compost, but as a rule it is better to supply these in available form as the growth and crop require them, than admix enriching substances, such as horse droppings or farmyard manure with the compost for making the borders. When the soil is poor a fifth part of horse droppings or thoroughly decayed manure may be incorporated with the loam.

In replanting ram the compost about the roots, spreading these out well up to the surface, and with soil between each layer so as not to have the roots all together. This will insure a fibrous root formation, steady progressive growth, short-jointed wood, securing with judicious ventilation and management solidified growth and large heavy fruit. The border may be 2 feet in depth. Should the drainage be good it will only be necessary to detach the roots as advised, confine the trees to the narrow border, and remove some of the old soil from amongst the roots, supplying fresh compost and top-dressing as above stated.—GROWER.

NOTES & NOTICES

Recent Weather in London.—The weather of late has been characterised principally by the cold misty nights and mornings. This has cleared during the day, and the sun has shone genially, but it has seldom been really warm.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, September 11th, in the Drill Hall, James Street, Westminster, 1 to 5 p.m. A lecture on "Garden Manures" will be given by Mr. F. J. Baker at three o'clock. Those intending to exhibit at the Crystal Palace Fruit Show should note that entries close on September 20th.

Death of Mr. William Dodds.—This well-known Dahlia raiser died on August 17th, at Bristol, at the age of ninety-one. He came south from Scotland in 1847, and entered the service of Col. Baker, Fisherton, Salisbury, as under and subsequently became head gardener. Col. Baker was an enthusiast in Dahlias, and Mr. Dodds soon made himself famous as a raiser of new varieties. Mr. Dodds, on the death of Col. Baker, went as gardener to Sir G. Smythe, Bart., Ashton Court, Bristol, but retired several years back.

Alexandra Palace.—The purchase of the Alexandra Palace and Park may now be considered as accomplished, at the third attempt, and the public will reap the benefit of the efforts of an energetic and public-spirited committee. The sum required was finally fixed at £150,000, which is regarded as a very low price. Of this £144,500 has been promised, chiefly by various public bodies, and the L.C.C. Open Spaces Committee now recommend a grant of £7000. The surplus of £1500 will probably be disposed of by a re-arrangement of grants. The grounds will be maintained as before.

Death of Sir John Bennett Lawes.—Through the passing of Sir John Bennett Lawes, who died at St. Albans, on Friday, 31st ult., agriculture loses one of its greatest ornaments and the farmer loses a staunch friend. Agriculture was what the dead baronet lived for, and ever since he left Oxford in 1834 at the age of twenty he devoted himself to laboratory research in the interests of agriculture, and to practical experiments in the field. What he did for the scientific side of agriculture is part of the history of our greatest industry. His best monument is every field where his principles have been followed. He providently, however, insured that his memory should be kept green by placing £100,000 in trust so that his work might be carried on after he slept beneath the turf he loved so well. The deceased baronet was the first to impress upon cultivators the value of superphosphate as a food plant, and from which growers of all kinds of plants have since derived such an immense amount of benefit.

Tarporley Flower Show.—The tenth annual show of the Tarporley and District Horticultural Society was held recently in Arderne Park. The weather was most unpropitious. The entries numbered nearly 1000, a slight increase on last year. The table decorations were one of the features of the show. There were nine entries. The judges had difficulty in making the awards, but ultimately gave premier honours to Mrs. Hughes for a dainty arrangement of Sweet Peas, Maidenhair Fern, and Gypsophila paniculata. In this section was an exhibit by Mrs. Gordon Houghton, not for competition, but which was highly commended. In the open section Mr. Charles Threlfall took first place for a remarkably fine exhibit of stove and greenhouse plants, which included some magnificent specimens of Crotons and Allamandas. The second prize was won by Mr. Gordon Houghton, in whose exhibit were some fine Caladiums and Palms. One of the finest displays was the group of plants arranged for effect belonging to Mr. Charles Threlfall. This was the only exhibit in this class, but well merited the prize. In the class for twelve distinct cut flowers the quality was uniformly good. The first prize was won by Mr. James Tomkinson, second (equal) by Mr. C. Threlfall and Mr. R. Brocklebank. Mr. James Tomkinson carried off first honours for the collection of fruit, eight varieties, his being an excellent Melon, Apricots, and Nectarines. The second was won by Mr. R. Brocklebank. Sir Philip Grey Egerton exhibited a very fine collection of fruit, not for competition, including some Peaches which were exceptionally large.

Gardening Appointment.—Mr. J. W. McHattie, for some years gardener to the Duke of Wellington, Strathfieldsaye, has been appointed gardener to Whitaker Wright, Esq., Lea Park, near Godalming. Mr. McHattie will take over the charge at Lea Park in October.

The Robert Fenn Testimonial.—Mr. A. Dean asks leave to mention that he has received through the *Journal of Horticulture* subscriptions to the above testimonial, other than those previously mentioned, from Mr. G. Shayler and Mr. H. Dunkin, for which he is very grateful.

Royal Aquarium Dahlia Show.—This exhibition, which will be held on September 18th, 19th, and 20th, is promoted for the purpose of continuing the display of Dahlias held for several years by the National Chrysanthemum Society. Gladioli will form one of the features of this show. Schedules of prizes can be had of Mr. Richard Dean, V.M.H., Superintendent, 42, Ranelagh Road, Ealing, W.

Eccles and Patricroft Autumn Show.—On Thursday and Friday, November 8th and 9th, the Eccles, Patricroft, Pendleton and District Chrysanthemum Society will hold its fourteenth annual exhibition in the Town Hall, Eccles. There are forty-seven classes particularised, some of which are open to all comers, while others are governed by certain well-defined rules. Three silver challenge cups are offered for competition, as well as medals of the National Chrysanthemum Society and handsome money prizes. Schedules and full particulars may be had from the honorary secretary, Mr. J. H. Bryan, 134, New Lane, Peel Green, near Manchester.

Stirling Flower Show.—This society, which is one of the oldest in Scotland, held its annual exhibition on the 30th ult. The entries were more numerous than last year, but when they came to be staged there was a shrinkage in the vegetable section. The show, however, was a good one, as a whole fully equal to that of 1899. Mr. Lunt of Keir, as usual, came well to the front, carrying off the leading Grape prizes and plants. In every class his exhibits were first-rate. Mr. Ritchie of Polmaise was strong, as usual, with hardy fruit. Horticulture in the Stirling district is as well represented as in any part of Scotland. The enthusiasm of the public, who enter into the spirit of the matter, is as strong as that of the exhibitors. Messrs. Drummond and Craig, nurserymen, were strong in exhibition of table plants.

The Potato Disease.—The Potato disease has manifested itself in Ireland, and the newly appointed Board of Agriculture in that country has issued a set of instructions for observance in dealing with the disease which are eminently useful. It is stated that on no account should the Potatoes, when raised, be covered with the Potato tops (haulms) either directly on the Potatoes under the earth or on the top of the earth covering, as is sometimes done with a view to holding the top layer of earth on the pit. The Potato tops are full of disease-producing germs, and when they are put on the Potatoes or on the pits these germs are washed through the earth upon the good Potatoes inside. When the haulms cannot be conveniently burned, they should be put in a heap in an out-of-the-way place and, if practicable, mixed with quicklime.

Death of Mr. John Menzies.—"At Carnoustie, on the 29th ult., John Menzies of Bankhead, Duns; aged seventy-one." This announcement came as a surprise even to those who knew that for a considerable time the health of Mr. Menzies had been shaken by a succession of ailments. The primary cause of death was blood poisoning. The deceased was formerly widely known as an eminent agriculturist in Clackmannanshire. Since his removal to the neighbourhood of Duns his services as a land surveyor and measurer were in general request in his own and the neighbouring counties, as well as across the border. Hither also he transferred his love of flowers, and he continued the cultivation of various sorts, making a specialty of the Auricula, and his collection was long the most extensive in Scotland. He was one of the leading promoters of the short-lived Scottish Primula and Auricula Society. His name will be familiar to many in all parts of the country who may read these lines through transactions in this, his favourite flower. Of fine personal appearance, genial manner, wide intelligence, and strictest integrity, he impressed everyone with whom he came in contact as one much above the ordinary average of men, and those who, like the writer, enjoyed the privilege of his more intimate acquaintance, deplore the loss of a friend highly esteemed, to whom we can now only pay the tribute of a sorrowing and affectionate remembrance.—A NORTHERN AMATEUR.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Bridgnorth Horticultural Society.—The annual exhibition of the Bridgnorth and District Horticultural Society for cottagers and amateurs was held on Thursday afternoon in splendid weather. The exhibits were staged in a large tent, and in quantity and quality showed improvement on last year, the cottagers especially being well to the fore. The hon. secretary, Mr. G. H. Devereux, and all those associated with him in the preparatory work, may be congratulated upon the excellent way in which the show was arranged.

Hunstanton and Aldeburgh.—The Great Eastern Railway Company has favoured us with copies of their annotated time tables to these East Coast resorts. The pamphlets are freely illustrated, and give many most interesting notes of the towns, villages, and landmarks that are passed *en route*. The practice of publishing such books is comparatively new, but is worthy of extension, as the traveller finds the time pass the more quickly when his mind is being instructed on the country traversed by the aid of a well printed booklet. We do not know the price, but it is sure to be infinitesimal. Application for copies should be made to the Superintendent of the Line, Liverpool Street Station.

Penarth Chrysanthemum Society.—Five dozen classes are contained in the schedule of this society, of which the honorary secretary, Mr. H. A. Allen, 3, Kymin Terrace, Penarth, has sent us a copy. The date of the fixture is Wednesday, October 31st. Generally speaking the prizes are good, and as there are several splendid growers in the surrounding district the exhibition should prove an excellent one. The chief open class is for twenty-four Japanese, distinct, for which five prizes are offered of the total value of £9 10s. The winner of the premier award holds for the year Lord Windsor's 20 guinea challenge vase, which must be won three times before becoming the absolute property of any exhibitor.

Albrighton Flower Show.—On Thursday the annual show of the Albrighton and District Horticultural Society was held at the Lawns, adjoining Albrighton Hall, and the attendance of visitors was very numerous. As compared with the efforts of the committee in previous years the result on this occasion was very gratifying, and showed that the society is making remarkable progress. On former occasions one tent was found to be capable of holding all the exhibits, but this year in order to gain the £120 offered in prizes the number of competitors was so great that two large tents had to be provided. The centre of one of the tents was filled with a magnificent group of hothouse and other plants, which had been sent by the president of the society, the Earl of Dartmouth, from Patshull House. Another fine group was sent by Mr. A. C. Lyon of Albrighton Hall, and two more groups were exhibited by Mrs. J. E. Briscoe and Mr. R. Lowe of Wolverhampton. The display of vegetables was exceptionally fine, and some excellent collections were staged by Mrs. Wight-Boycott of Rudge Hall, and Mr. R. M. Sheldon of Springfield House, Oaken. Some choice fruit was placed on the stands. The cut flowers were an attractive section.

Dawley Flower Show.—The Dawley Horticultural Society held its fifth annual exhibition on the 28th ult. under most pleasant auspices. The weather was all that could be desired, and a large number paid for admission to the grounds attached to the vicarage, which were kindly placed at the disposal of the society for the occasion. A well organised committee had charge of the arrangements. Too much praise cannot be bestowed upon the joint hon. secretaries, Messrs. J. Clayton and J. S. Barker, for the admirable way in which they carried out their arduous duties. The vicarage ground is an ideal spot for the holding of a show such as this, and forms a not unimportant attraction in the day's programme, and at dusk it was rendered especially pleasing by being illuminated with thousands of fairy lights. The horticultural exhibits were tastefully arranged in two spacious tents, whilst the large schoolroom had also to be requisitioned to find accommodation for the numerous entries. The classes were 121 in number, and were exceptionally well filled, and the produce on view was of a nature to delight even the most fastidious. In many of the classes competition was remarkably keen, and those gentlemen to whom the task of judging was entrusted found their duties not of the easiest description.

Stockport Chrysanthemum Show.—The Stockport Chrysanthemum Society, in its schedule just to hand, make a group of Chrysanthemums arranged in a space 9 feet by 9 feet its chief feature, with four prizes of the aggregate value of 10 guineas. Mr. J. Hamilton Leigh offers a silver cup for twelve blooms Japanese, and the society adding three money prizes. It is rather quaint to observe in the Stockport schedule in all the classes relating to Japanese and incurved the words, "large varieties." We should have thought the smart growers of the district would have known without that clause that blooms from, say, a bush-trained plant would not score many points in a stand for twelve Japanese or twelve incurved. There are also classes for fruits and vegetables. The honorary secretary is Mr. W. Ralphs, St. Peter's Square, Stockport.

Wellington Horticultural Society's Dinner.—The annual dinner of this society was held recently, when between thirty and forty sat down. Mr. John Clayton occupied the chair, and in due course proposed the loyal toasts, which were drunk with enthusiasm. The toast of "The Army, Navy, and Auxiliary Forces" was proposed by Mr. W. Brooks, and responded to by Mr. Hart, the vice-chairman. Mr. W. Pierce proposed "Success to the Wellington Horticultural Society," and gave expression to his gratification at the success achieved, despite the unfavourable climatic conditions on the day of the show. He thought the town was excellently situated for a fête of the description they promoted, and believed that with ordinary energy the society might be made the most successful of the kind in the county, save one. Mr. Steventon, in response, made reference to the satisfaction the committee felt at having gained a balance of more than £11, especially as to other events of the kind held on the same day the weather proved disastrous. Mr. S. Bremmell proposed the healths of the hon. secretaries, Messrs. F. Evans and W. Brooks. The proceedings were pleasantly varied by songs.

August Weather at Hodsock Priory, Worksop.—Mean temperature, 59.6°; maximum in the screen, 77.6° on the 13th; minimum in the screen, 39.7° on the 29th; minimum on the grass, 32.9 on the 29th. Sunshine 133 hours, or 30 per cent. of the possible duration. Rainfall, 4.57 inches; difference from average + 2.14. Rain fell on eighteen days; maximum fall 1.09 on the 3rd. Rain from January 1st, 18.27 inches; difference from average + 1.90 inch. The wettest August since 1881. Mild at nights, but no hot days. —J. MALLENDER.

Sussex Weather.—The total rainfall at Abbots Leigh, Haywards Heath, for the past month was 1.74 inch, being 0.67 inch below the average. The heaviest fall was 0.49 inch on the 6th. Rain fell on twelve days. The maximum temperature was 83° on the 18th; the minimum, 46° on 11th and 25th. Mean maximum, 71.05°; mean minimum, 51.15°. Mean temperature, 61.10° which is 0.37 below the average. August has been a variable month. The mean temperature has been 5° below that of July. The greater part of the rainfall was during the first ten days, and it was accompanied with high winds, which did some damage to fruit crops. In dry soils there has not been sufficient rain to carry heavy crops of Apples and Pears to their full size. On heavier soils the samples are better.—R. 1.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
August and September.										
Sunday.. 26	N.E.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday.. 27	E.N.E.	59.2	50.4	62.5	52.5	—	61.8	62.0	60.1	46.0
Tuesday 28	E.N.E.	60.6	55.9	63.5	53.5	0.02	60.5	61.5	60.0	48.2
Wednesday 29	E.N.E.	57.9	55.0	61.4	56.0	—	59.5	60.9	59.9	52.7
Thursday 30	E.S.E.	61.7	58.0	69.2	56.2	—	59.5	60.4	59.7	54.2
Friday .. 31	S.S.W.	60.5	57.0	66.4	55.2	—	60.8	60.5	59.5	49.2
Saturday 1	S.S.E.	56.3	55.8	74.2	44.9	0.28	59.6	60.6	59.5	39.5
		61.1	60.7	66.7	54.9	0.09	61.7	60.8	59.3	47.6
MEANS ..		59.6	56.1	66.3	53.3	Total 0.39	60.5	61.0	59.7	48.2

The past week has been remarkable for misty mornings and dull, cold days.



Heather and Ling.

IN writing of the British Heaths "W. D." (page 192) makes no mention of the remarkable fact that everywhere, as far as I have seen, on English grouse moors and down to Cornwall, Ling (*Calluna vulgaris*) is universally called "Heather," and the common Bell Heather (*Erica cinerea*) is called "Ling." The utter indignation of gamekeepers when I have pointed this out has been very amusing. "D'ye think I don't know Heather from Ling when I was born in the Heather, and have lived here all my life?"

Grouse, and I fancy sheep also, will eat only the Ling, though of course the moor folk, as they misapply the two terms, will tell you just the opposite. Of course, Ling is Heather, and there is no reason why it should not be so called. The real error is in calling the Bell Heather Ling. In almost every department of natural history the local names are generally wrong, all over the world.—W. R. RAILLEM.

The Crystal Palace Fruit Show.

I FEAR it is too much to ask for, when suggesting that some effort be made to break up with the aid of a few small plants in the collections and long tables of single dishes, as also with small groups of plants here and there to divide classes at the forthcoming great fruit show at the Crystal Palace. Everyone who has seen this show has admitted that it would be greatly improved by a little dressing of this nature. The Palace gardens have such immense resources of this nature that the decoration of the tabling should not be a matter of difficulty. I am not for one moment suggesting, what is to some people such an impropriety, that exhibitors themselves be invited to bring material wherewith to dress their collections.

There can be no doubt, however, that the large trade collections do present far more attractive aspects when they have the aid of some diverse forms of decoration. Long tables filled with Apples and Pears without a break of any description, except such as is furnished by the unattractive class cards, cannot be regarded as pleasing. The work of dressing, as suggested, could easily be done by the Palace staff as soon as the staging was completed, or if preferred, overnight, that the exhibits might be accommodated to the plant arrangements. It is to be hoped that every effort will be made by exhibitors to have every variety legibly named, and the cards fixed prominently to each dish. The public, as well as the reporters, are always grateful when such is well done, and even if the naming seem rather prominent yet it adds very materially to the interest of the show. Some varieties of both Apples and Pears ought to be well represented this year. If they are not then they should no longer have classes filled by only two or three dishes.—A. D.

Aphis Migrations.

THESE remarkable incidents in aphis history are now better understood than they were, but even yet there are some particulars we cannot explain. That they principally occur when the insects are in the winged state is clear, though the viviparous unwinged aphis can travel sometimes, still torpidity seems to characterise our foe at that stage of life; it simply sucks and multiplies, hence the ease with which it can be dealt with in the general way. May and September are the special months when aphides migrate in the winged form, the day or days they prefer being tolerably calm, though a moderate wind is in their favour.

The late Mr. Walker was the first to indicate what is the prompting cause of these migrations—namely, a condition of the atmosphere which checks the supply of sap in the trees or plants on which they are feeding, dull close weather, such as is popularly called a blight in the air. This happens both in spring and autumn, then the insects stop feeding, and assume the winged state, changing their abode, and also frequently resorting to species quite different to those they have quitted. Their journeys are mostly short, remarks Mr. Walker. This may be the rule, but they travel at times for several miles. I have had proof of hosts going across the Thames near Gravesend, on their way from Essex to the Hop plantations of Kent. Large numbers die *en route* from various causes. They enter shops, and get into gaslights; visit the eyes, mouths and ears of the public, evoking language more forceful than elegant. One fact very notable is, that these emigrants

die, even if they reach their destination; having produced a new brood, they feed no more.

Aphides that infest our garden Roses in early spring are believed to travel to Beans on the approach of summer, and those which quit fruit trees about May also give a different diet to their posterity. It is quite likely that occasional flights of winged individuals happen in other months besides May and September. Patches of weeds, which are allowed to remain in gardens by some people from autumn to spring, probably afford a winter resort to several species of aphis, and they eventually crawl off, many of them, to more attractive food when it is accessible. But the majority of the aphis tribe pass the winter in the egg state. Doubtless at the roots of various garden and wild plants these insects live all the year. One of our entomologists has also discovered the existence of what might be called aphis queens, which, like the queen wasps, hide away in snug retreats, and appear as parents of a new brood next season.—ENTOMOLOGIST.

Perpetual Strawberries.

I TRUST that "W. R. Raillem" may be right in his expectations as to the future of these fruits, but the look-out at present is not very encouraging I am afraid. In several instances of late in various parts of England I have been making inquiries and watching their behaviour, and in no case have I heard any very good account of them. One grower for market in the West is now busy digging the plants in, while at another place in July when they should have been good only a few small and poorly flavoured fruits were forthcoming.—H. R. RICHARDS.

The Parsley-leaved Bramble.

ANY time from the end of October onwards to March is suitable for planting this useful Bramble, provided the weather be suitable for the operation. Perhaps early in November is as good a time as any. It is done the same as planting Raspberries. Fertile yet rather porous soil is best, as the plants do not become established quickly in cold heavy land. This Bramble is good for covering walls or fences, or it may be trained in the form of arches over walks, or in any other convenient manner desired. When it commences bearing all that is necessary is to cut the portions out and retain the best of the young growths, as in growing Raspberries.—F.

Tomatoes and Coal Ashes.

COAL ashes are generally conceded to be deficient of manurial constituents—at least of ammonia. According to "Johnson's Gardeners' Dictionary," however, coal ashes contain carbon, silica, alumina, sulphate of lime, iron and potash, carbonate of lime, and oxide of iron, and are said to be a good manure for grass, Peas, and Potatoes. Thus the assimilation of some if not all of those constituents is likewise beneficial to the Tomato, and probably in a marked degree. The relation of a case in point may go far to prove this. It was experienced by my brother when resident at Rhode Island, New York. Having no further use for a brick built pit, used for plunging half-hardy plants in pots in during the winter, it occurred to him to add more furnace ashes to the pit, and plant Tomatoes therein. A shovelful of fresh cow manure was the only additional stimulant added, merely placing it beneath each plant, returning the ashes to each hole, and then place a plant on the spot, and when the plants became fully established the hose was freely applied during the summer, resulting in a heavy crop of fruit of fine size and quality; some of the plants extended to 18 feet in length, year after year in the self same ashes, much to the astonishment of the neighbouring gardeners. Moreover, the "spot" or "sleepy" disease never made its appearance. I must state that the long deep pit was filled up the depth of 5 feet within 18 inches from the top, thus leaving space for wintering bedding stock, and a single Tomato plant was allotted to each sash space. Whilst, of course, the sashes were not required for the Tomatoes during the summer and autumn seasons, but long laths were laid over the pit to train the plants on. The cow manure, of course, afforded a stimulant for the young plants. I have seen the advantage of coal ashes for Tomatoes mentioned in the *Journal of Horticulture* by, I think, Mr. Iggulden, and the testimony I give may tend to increase their use.

Were another case in point needed to prove the efficacy of coal ashes, I may instance that by an amateur grower of Zonal Pelargoniums, and whose success was remarkable with plants grown in 4-inch pots. The plants were grown in pure turfy loam, with perhaps a little leaf mould added; but nothing in the shape of manure was given afterwards, simply pure water. The roots, however, in due course penetrated through the bottom of the pots, and then completely permeated the layer of coal ashes, spread over the staging upon which the plants were arranged.—W. G.

Cardiff Castle.

For many years Cardiff Castle has been celebrated in the horticultural world for two things—1, the peculiarity of its situation for a large estate and, 2, for the exceptional excellence of the crops produced therein. It has had and will ever have from the lay point of view, in contradistinction to the expert (horticultural), a wider repute for its historical associations—associations which it may be said the present Marquis of Bute has done much to create and more to foster. For many years a small army of workmen has laboured at the castle walls, and ever and anon most interesting discoveries have been brought to light. The work of research is still proceeding, and much has already rewarded this persistency, more may still remain for the future to reveal. The interest at any rate is always there,

can well imagine this to have been the case with the weapons in vogue nearly 2000 years ago. It is said that the castle was besieged by the Roundheads in the time of Cromwell, and that it fell by the treachery of a sentry, who admitted the enemy. On claiming his reward for the betrayal the officer in command repaid him by instant death. Assuredly this may be taken as illustrative of the biblical saying that "the wages of sin is death." The traitor's grave is pointed out to visitors at the present day.

The Castle and Pleasure Grounds.

The castle itself is of much more recent date, being probably of the Norman times. Of this the most ancient is the old keep, and what is known as Robert's Towers, though who this Robert was I am not in a position to say. Two views of the castle are given in the illustrations (figs. 59 and 60), the latter of which affords also a glimpse of the pleasure grounds. These are of great



FIG. 59.—A CORNER OF THE OLD CASTLE WALL, CARDIFF.

and it is happily an interest in which many hundreds, even thousands of people in all phases of the community are engrossed.

The Castle Walls.

Descending from the summit to the foundations of the castle wall one may read the history of a thousand years or more, for it commences with the marvellous handiwork of the Romans, and subsequently on the inner or castle side the immense mounds of the Saxon period. Within the past few months the Roman gateway has been discovered, and the date of A.D. 90 is given as the time of its formation. A higher level of the wall is dated by authorities as A.D. 190 or thereabouts. The foundations are of immense thickness, and there existed stone steps at certain intervals up which the defenders in case of siege could mount to the embrasures at the summit. These facts are demonstrated by the present explorations, and the Saxon mound is retained as showing the difference in the modes of defence of the two mighty peoples. Cardiff Castle was regarded as impregnable, and one

extent, and though somewhat flat of great beauty. On one side may be seen the Taff which, if shallow and still in summer, has its moments of turbulence when swollen with the winter rains. There is, too, the canal which acts as a feeder to the great Bute Docks, to which the township of Cardiff owes so much of its prosperity. Immense clumps of flowering shrubs and trees with belts and shrubberies abound, and add interest, beauty and diversity to this garden within a town. Summer flowering plants, too, are skilfully employed in suitable positions, and these combined with the broad acres of smoothly mown grass make the pleasure grounds of Cardiff Castle ideally attractive to the lover of such simple scenic effects.

The Indoor and Outdoor Fruit.

To reach the more utilitarian department of the garden one must cross a main road and enter by the gates at Mr. Pettigrew's house, and it is in this section that one realises most forcibly how completely the garden is surrounded. Save for the narrow opening adjacent to the

gates it is encircled by lofty buildings, and the wonder is that this excellent gardener and his assistants are able to produce such remarkably good results. It is in this circumscribed area that the magnificent pot Vines and the splendid Melons (illustrated and described in the issues of the *Journal of Horticulture* dated August 23rd and August 30th respectively) are grown. It may safely be affirmed that no better results could be achieved in the most favoured garden than at Cardiff. These are handsome tributes to skilful men. And yet the Vines in the big vineries, the Peaches and Nectarines in their structures, and the Pines in the pits, are fully as meritorious. Every year they are made to yield their fruit in abundance, and no matter how they may be pressed they are always ready to respond to the next call. Look, too, at the grand Apples and Pears in this garden. They are beyond praise. Time after time they have been written of in these pages, and in every instance words of the highest commendation have

Catalpa bignonioides.

CATALPA bignonioides is an old inhabitant of English gardens, as it was introduced by a Mr. Mark Catesby from Carolina in 1726. It is faithfully described by Phillip Miller, and it was included in the Kew collection at the time Aiton published his "*Hortus Kewensis*." The tree is a native of Georgia and neighbouring States, but it was early and extensively planted for ornamental purposes in the towns of the Northern States as far as Massachusetts, and is now a common tree over a wide area. In the southern counties of this country and on the Continent the Catalpa grows as rapidly as in its native land, quite a good sized tree being formed in ten or twelve years, and this has recommended it to many planters. Another advantage is that it succeeds in damp situations where some Conifers



FIG. 60.—CARDIFF CASTLE AND PLEASURE GROUNDS.

been accorded to them. Expert fruit growers from all over the country have seen and admired them, and if the truth was known have probably envied Mr. Pettigrew the honour of having grown them.

The Plant Houses and Kitchen Garden.

The number of structures devoted to plants is comparatively limited, but they contain a most complete collection of stock suitable for the requirements of the establishment. Palms and Ferns are numerous and good; in fact the whole of those grown are in capital condition. The vegetable quarters are naturally enough fully stocked with various crops, but the conditions of production are very unfavourable, and the allotted area is so small that much need not now be written on the subject, as it could scarcely amount to more than repetition of the remarks that have fallen from other pens. This brief notice of Cardiff Castle and its gardens may therefore be brought to a close with a word of hearty congratulation to Mr. Pettigrew and his staff for the admirable order in which the entire charge was found when, in the early summer months, this visit was paid.—ZINGARI.

and other trees will not exist, but with the common Birch, Poplars and Willows it flourishes admirably. A waterlogged soil is not suitable for it, but it does not object to abundant moisture where there is a good natural drainage. In deep alluvial soil it makes most vigorous growth until a height of 30 or 40 feet is attained, and after that it becomes more spreading and bushy owing to the production of numerous strong lateral branches.

When in flower the Catalpas in Parliament Square and several other open spaces in the metropolis are very handsome, the large panicles being borne in great numbers, and for a fortnight or more these expand in succession. The corollas are peculiarly crumpled, with spreading lobes and a short inflated tube, white with yellow lines in the throat, and numerous small violet or purple dots, which give it a beautiful appearance, something like the spotted Gloxinias. The calyx has a dark purplish tinge, the pedicels being similar, and they serve to show up the flowers still more. The illustration (fig. 61, page 229) represents a panicle of ordinary size, many exceeding it in length, and with larger individual flowers.



Flowers under Eclipse.—During the recent solar eclipse in Spain the Sensitive Plants of the Madrid Botanic Garden were seen to move their leaves spontaneously, and Acacias from New Holland did the like. The Oriental Poppy and some other plants closed their flowers, whereas Calandrinia discolor and others opened their corollas during the darkness and shut them with returning day.

Flora of Ohio.—The present flora of Ohio is found by Professor and Mrs. Kellerman to include 2060 flowering plants, of which 430, or a little more than 21 per cent., are introduced species. Of these foreigners 326 came from Europe, thirty from Asia, two from Africa, forty-six from southern and western United States, twenty-one from Central and South America, and five from unknown sources. There are forty-nine weeds among imported plants, and forty among natives.

Hedysarum multijugum.—This is a plant which is as pretty as its name is awkward, and is one of the few hardy Leguminous shrubs which have flowers of a pink or purple colour, making a change in an order which has yellow for the prevailing colour of its shrubby representatives. It forms a low, much-branched shrub, 3 to 4 feet high, with flowers of a purplish-pink hue, which are borne on axillary racemes a foot or more in length. The leaves are pinnate, each consisting of about twenty-five small ovate leaflets of a greyish colour, as are also the younger stems. It is thoroughly hardy in this country, and succeeds best on a fairly rich, well drained soil. The growth is rapid, plants two years old from seed flowering freely, but in time they get into what is generally known as a "leggy" condition, when most of the growths should be pegged down immediately after flowering, which will cause them to break from the bases of the shoots, and assume a more bushy condition. It is easily raised from seed, which is freely produced, and is found beneath the flowers, which, though withered, are persistent on the plant until after the seed is shed.—C.

The Honey Harvest—The honey year, says a contemporary, may best be characterised by the single word "irritating." It has been prodigal in promise, poor in performance. Such a show as it made of flower and fruit is almost without parallel, so that those who do not go into particulars, but merely draw the inference that a wealth of blossom ought to mean a full hive, have been disappointed in their expectations. From Easter to mid-July summer marched on with a pageant whose beauty it was good to behold. Masses of white bloom on the Hawthorn, myriads of wild flowers on mead and lane, fruit trees first covered with blossom, then bent low with fruit, wild Roses a gleam in lane and on thicket, lines odorous and bountiful—did industrious insects ever before enjoy such a chance? Instead of a great honey yield there is but a half, or at most a three-quarter crop. And the cause of this, as of so many ills, was the capricious British weather. The great vexation occurred in June. At that season what bee-keepers call the Sainfoin honey flow was at its flood—a real springtide this year. But suddenly the weather broke, and when every moment should have been golden, rain and wind kept the industrious and meritorious insects idling at home.

Scraping the Bark of Fruit Trees.—We have seen old trees in an orchard scraped to remove the loose bark and moss from the trunks, and have, when younger, scraped some ourselves without any very definite idea of what we were doing it for, excepting that the tree looked better to us with a smooth bark. But we did not like to scrape so hard as to get down to the light coloured inner bark, and leave it spotted or streaked. We think now that such a moderate scraping may be beneficial in removing hiding places for many insects, some of which are injurious to the orchard, like the codlin moth and others that leave the crops on which they feed to hide on the trees like the Asparagus beetle. We have seen some people whitewash the trunks of the trees after scraping, and even when they were not scraped, but we could see no benefit from that. We like to wash them down with a strong suds of softsoap, or the lye of wood ashes, and thought this destroyed insects and their eggs. But after this has been done, says an American contemporary, gather and burn all the bark scraped off, and manure around the tree if the bark is to be kept smooth and soft. When it is making a good growth an Apple tree will have a smooth bark.

Armies as Plant Distributors.—Invading armies are great agents in the spread of plants. Naturalists twenty years hence, writing on South African botany, will date many a weed back to this year of war. Enormous quantities of forage are being sent up country from Cape Town every day to the front. The hay comes largely from Canada, as well as from England, and the seeds of which it is full will germinate and spread on the river banks and veldt.

The Hop Harvest.—The Hop harvest in East Kent has been commenced. There are numerous plantations in which the Hops look very well from outside, but which, on close examination, are found to be diseased to an alarming extent, and hundreds of acres will probably never be picked at all. The crop throughout Kent will be an exceptionally small one, the ravages of red mould and red spider being of a very serious character. Similar reports come from Sussex, Surrey, and Herefordshire.

Peaches in Georgia.—In many sections of the State the Peaches decayed badly, owing to the excessive amount of rain during the latter part of May and almost the entire month of June. Many of the early shipments were rushed into market in bad condition, consequently brought no returns to the grower; others whose fruit was in good condition received remunerative prices. Some late consignments fetched handsome returns. The fruit industry in Georgia is rapidly growing. Heretofore, when we have had a large fruit crop, the market being glutted, enormous quantities of Peaches have been allowed to rot in the orchards. This in a measure is now obviated, as a number of firms are running canneries, evaporators and distilleries. One cannery in this State has a capacity of 10,000 quart cans per day. Growers are also exercising better judgment in placing their consignments, thus avoiding glutting the markets.

Basic Slag on Clay Soils.—A writer in a weekly contemporary praises in generous terms the beneficial effects of basic slag on the stiff weald clays of Sussex. The use of this phosphatic manure on the Uckfield College and neighbouring pastures has been productive of extraordinary results, grass land that a few years ago was scarcely deserving of the name having been rendered productive and fertile by the prudent application of this substance. The basic slag answered well alone, but it was most effectual when employed with sulphate of ammonia, the weight of yield being increased by the addition of 2 cwt. per acre of nitrogenous dressing, while the quality of the herbage was of a better order than when nitrate of soda was the accompanying substance. The writer relates a striking instance of an incredible farmor in proximity to the college being brought a convert to the virtues of basic slag through practical demonstration of its effects. After much persuasion he was induced to dress part of a grass field with the manure, and so clear and tangible was the result that he is now an extensive user and a strong advocate of the material. For clay soils there seems to be no more serviceable artificial manure than basic slag.

Blackberries.—It does not seem to matter that we have this year an immense crop of cultivated fruits, which can be purchased very cheaply, for the intense desire which ordinarily exists to have Blackberries is still as great as ever. I have seen in all directions persons who can well afford to purchase good fruit going long distances to range the commons and hedgerows in search of Blackberries, and generally pulling the fruits even before they were ripe. That fact points to the conclusion that whilst due allowance has to be made for the natural desire inherent in us all to obtain all we can without cost, yet there is an undoubted fondness for Blackberries, which is manifested in childhood and adheres to old age. But this passion for these wild favourite fruits points to the fact that there should be in their culture some considerable profit. We have long known the value of *Rubus laciniatus* as a garden fruit, and we hope in time to know as favourably those hybrid berries, the Mahdi and the Logan Berry. But it is doubtful whether any of these new forms will ever attain to the high position which our native Blackberry occupies in public estimation. With so many thousands of acres of comparatively wild land in which Blackberries would thrive were they properly cared for, surely after only a few years if the area was protected the produce should be not only great but most profitable. Were the finest berries to be found, saved, seeded, then the produce sown, and stout young Brambles raised, and these the second year planted out 3 feet apart in rows 6 feet apart, and as growth became strong kept to solid ridges 4 feet wide, the ground between being kept clean, and old wood occasionally cut out, there can be no doubt but that the result would be most profitable crops.—A. D.

"Cut Flowers and Have Flowers."

THIS pithy maxim in horticultural practice is believed to have originated in England soon after the famous Dutch Tulip mania, and is said to have had its forerunner in "Cut Tulips and Have Tulips." The essential value of the maxim lies in the fact that it embodies a principle in physiological botany which deserves to be well understood by all cultivators of flowers.

As applied originally to Tulips, it is capable of a simple explanation. The Tulip is a plant which possesses two modes of reproduction—one mode by means of its bulb, the other by means of seed. The easiest and most natural method in the case of the Tulip and other bulbous plants is by means of seed. It would seem, however, that Nature's efforts, vigorous as they are throughout the whole vegetable kingdom in the reproduction of species, are restricted to one of these modes of multiplication in the case of bulbous plants, and that man has it in his power to select one or other of these means of reproduction, as in the case of the Tulip and similarly constituted plants. If the grower of a bulbous plant should wish to produce a variety, he elects to reproduce by seed, and he attempts so to control the production of seed by artificial pollination or cross-fertilisation, as to bring about the desired end. On the other hand, if the object of the grower be to multiply the plant without variation, he elects, in the case of a plant like the Tulip, to cultivate it by its bulbs. The production of seed and the production of bulbs the same season in a plant like the Tulip are not compatible with each other, for the reason that the powers of Nature would thereby be overtaxed. We learn therefore from this practical application of vegetable physiology that in the case of all bulbous plants it will tend the more certainly to the production of healthy and vigorous bulbs if the flowers as soon as they have reached their floral maturity be cut instead of being left to grow and exhaust the energies of the plant by "running to seed."

The Canna, many beautiful variations of which in recent years have been introduced, is subjected to the same rule. If we would have flowers we must cut them, and not allow the plant to run to seed. In this case the Canna perpetuates itself by means of its rhizome or root-stock, which is an elongated fleshy part of the stem lying underground, and upon which buds or "eyes" are developed to serve for the new shoots of the succeeding season. When the plant is allowed to produce seeds the development of the rhizome does not proceed with any vigour; but when the flowers are cut in time to prevent exhaustion of the energies of the plant by the production of seed, then the development of the rhizome goes on satisfactorily, and the grower may count with reasonable certainty on having flowers on new stems the succeeding season.

With Roses the same maxim may be carried into practice. Cut Roses, and have Roses. Here, in the case of the Rose bush, the cutting of the flowers on reaching perfection prevents exhaustion of the plant by the formation of seed. It thus keeps up the tendency of flower buds to form, and a Rose tree thus treated will present a prolonged period of bloom, and the flowers, in addition, will be finer than under a less attentive treatment.

In Bermuda very great success has attended the cultivation of the Japanese Lily introduced now many years ago. The so-called Bermudian Lily is really of foreign origin, but in its cultivation in Bermuda the practice involved in the maxim of "Cut flowers and have flowers" is thoroughly understood and most strictly carried out. The flowers are cut at the season of most perfect flowering just a day or two earlier than the period of perfect bloom, and they are shipped to New York, where they find a ready market. The plants deprived of their flowers still have their leafy stems to provide nutrition for the bulbs, which in due season are harvested.

Mr. Harris, in the Report on the Hill Garden at Resource (1899) gives some account of an attempt to cultivate the Bermudian Lily in Jamaica. He writes:—"The bulbs of the Bermuda Lily were lifted in July and August last, gradually dried, and sent to Hope to be packed and despatched to their owners. They were not a success from a commercial point of view—that is, the bulbs did not increase in size and quantity as it was hoped they would do; but horticulturally they were everything that could possibly be desired. With just ordinary field cultivation they were in flower, more or less, all the year round, and from March to June the field was simply a sheet of magnificent blooms."

There is no mention here of any marketing of the cut flowers, and obviously that was not attempted. But may not the want of success,

"from a commercial point of view," have existed in this very fact? It would be interesting to have the trial of cultivating Japanese Lilies in Jamaica repeated under conditions more closely similar to those which obtain in Bermuda. In order to procure bulbs of good quality and profitable in size and quantity, the flowers must be cut (and disposed of profitably, if practicable), and then the energies of the plants, no longer expended on maturing the flower and its seed, will be given to enlarging and multiplying the bulbs. In this way the grower may be successful commercially as well as horticulturally, by acting on the lines of the maxim "Cut flowers and have flowers."—JAS. NEISH (in the "Journal of the Jamaica Agricultural Society.")



Early-flowering Chrysanthemums in Pots.

THE sorts that bloom in September and early October are more associated with outdoor culture, but they well repay more care as pot plants. With the exception of the white variety Madame Desgrange, it is not usual to see them so cultivated, yet there is now abundant material for variety in colours. The above-named and Lady Fitzwygram for whites have the desirable qualities of bushy habit and freedom to bloom. Madame Marie Masse is an excellent pink, and the so-called "crimson" Marie Masse is equally fine, but the colour is bronzy red. Ivy Stark, deep yellow, is capital, so is Lemon Queen, which has flowers of a very rich shade. Ambrose Thomas, red bronze; Harvest Home, crimson and gold, and Roi des Précoces, crimson, are also good varieties. Flora bears small yellow flowers, but makes a good bush plant. Madame Eulalie Morel is admired for its shade of salmon-pink blooms, and the yellow sports from Desgrange, named Mrs. Burrell and G. Wermig, are as useful as the parent. Somewhat later than the above to bloom is Rycroft Glory, bronzy yellow; this makes a splendid bush plant. The sport from it, Nelly Brown, differs in colour, being a reddish shade. Rycroft Scarlet is fine in colour, and the plant forms a nice bush.

In the way of culture we do not pinch the shoots of these plants at any time. Their natural growth forms readily into bushy specimens, and when topped in any way they seem to grow less symmetrical. The cuttings should be rooted in early April, and duly potted. Finally they are put into those of 6-inch and 7-inch sizes, which are large enough, as the early sorts are less gross than most Chrysanthemums.—S.

Seedlings and Sports.

MR. POCKETT'S notes on page 196 of the Journal are very interesting, and his experience coincides with that of many other raisers. As a seed parent the variety Elwin Molyneux is very unsatisfactory, and the same may be said of Madame Carnot, although an Australian raiser informs me that he has succeeded in raising a seedling from it, which is even superior to the parent, but time will tell whether such be the case. In my experience, everything considered, the best blood has been obtained from that miffy and insipid grower, Mrs. Alpheus Hardy, and the brittle nature of the growth can be traced through several of its progeny. Mrs. W. J. Godfrey, a seedling from it, has been grown to an excellent form, but owing to the habit of losing the tips of the shoots, it is not now much grown. Another of its seedlings, Mrs. H. Weeks, although growing to treble the height of the last named, has been shown occasionally in magnificent form. Both of these varieties follow their parent in colour, and have broad handsome petals, with healthy dark foliage. I believe most of the fine varieties raised by Mr. Weeks are of the family of Mrs. A. Hardy, and what variety in size of foliage, sturdy and healthy constitution, combined with an immense bloom, can compare with Mrs. Barkley?

Some raisers say it is useless to expect many dark crimson seedlings from parents of the same colour unless we can be assured that this colour predominated in many preceding crosses. My experience is that the majority of seedlings greatly partake of the seed parent in one or more particular. I am growing this season several hundred seedlings produced by using the pollen from Master H. Tucker on Mons. Chenon de Leché and *vice versa*, and, strange as it may seem, the seedlings from the latter, a dwarf growing variety, are much more robust and taller than those from the seed of Master H. Tucker, which most growers know to be of tall growth.—W. J. GODFREY, Exmouth.

Early Cauliflowers.

SINCE the introduction of the small, quick-hearting forms, of which Dean's Snowball is the type, and, in my practice, Veitch's Extra Early Forcing the most reliable variety, there has been less need to keep so many autumn raised plants of different varieties through the winter, as it is possible to have the former in beautifully close and white medium sized heads at the end of May or early in June by sowing the seed in pots at the latter part of January or the beginning of February. Sowing in pots means growing the plants in gentle heat, well up to the glass, or in unobstructed light, ventilating the structure freely on all favourable occasions, placing singly into small pots, hardening and planting out as soon after the middle of April as the weather becomes mild and showery, in a warm, sheltered situation, such as a south border. This implies trouble, and it is not easy to secure sturdy plants where there are Peach houses and vineries in full profit—that is, the trees or Vines fully occupying their allotted space on roof trellises, even when there are several structures started in succession. Matters are different where light and airy positions can be found for the plants, as it is easy to transfer them from one structure to another according to requirements, and in some cases they can be grown from first to last under glass, shifting into larger pots as required, and having the beau ideal of a Cauliflower for a gentleman's table with certainty in May. In some establishments the earliest Cauliflowers are raised from seed sown early in the year in gentle heat, and the plants grown on in pots till of planting-out size, when they are planted in pots on rich soil, about 18 inches from the glass, and that distance apart.

The foregoing matters are well worth knowing, and the mode of what must be called forcing Cauliflowers has its advocates, for the reason that they find it quite unnecessary to winter plants in frames of other varieties. Of the value of early Cauliflowers I am well aware, and to have them succeed the late Broccoli is a very important consideration in well appointed establishments, and even in some places the small close white heads of the Cauliflower must be had as early as possible for the need of the connoisseur of this delicious vegetable, no matter how plentiful the Broccoli. Against forcing Cauliflowers I have nothing to submit, but after many years' experience I find it just as necessary to winter a good stock of Cauliflower plants in frames and under hand-lights as before the advent of Dean's Snowball or its selections, and even as practised half a century ago.

With hand-light and frame-wintered plants it is seldom possible to cut heads of Cauliflowers before the middle of June, and sometimes not before midsummer, or even in cold seasons and late districts before July. When they do come in I find that the early forcing varieties are nowhere for general use beside the old stagers—Early London and Walcheren. True stocks of these two varieties are of the best for everyday consumption and for marketing. I know there are improved forms of Cauliflowers. Dwarf Erfurt Mammoth, an advance on Early London; Veitch's Pearl, a great improvement on Walcheren. Veitch's Autumn Giant, however, is all I care to add to Early London and Walcheren, though Early Giant, Eclipse, and King of Cauliflowers are excellent varieties. Snowball or Veitch's Extra Early Forcing may be relegated to the advocates of sowing in heat, along with Pearl, about the middle of January, to avoid the necessity for the autumn sowing of Cauliflowers.

Adhering to the old-fashioned plan of keeping small plants through the winter the time has now arrived for sowing the seeds. With Early London and Walcheren Veitch's Autumn Giant may be sown with a view to giving an admirable succession. I, however, do not practise sowing this variety in the autumn, for there was such a large per-centage of "blind" plants from the procedure as to preclude the repetition. Besides the merits of this variety come out best in the late summer and autumn.

In the North of England the seed should be sown about the 20th of August, while in the southern parts of the country the beginning of September is more suitable. Sown too early the plants are liable to "bolt" in the early summer, and to have experience of such calamity in a large percentage of plants is better imagined than described. Running to seed instead of forming heads is a serious disaster in early Cauliflowers, therefore too early sowing is not advisable. But the age of the seed and also the management may have something to do with the "bolting" of Cauliflower plants. Old seeds have a tendency to early seeding in the plants—"to bolting"—and starved, much checked ones from new seed have a strong inclination to "run" to flower and seed, and thus maintain their own in the "struggle for existence."

Select a sunny and not too sheltered spot for sowing the seed, the ground being in good heart, but not from manuring at the time, that

from a previous crop leaving the land sufficiently rich. Let it be moderately firm, scatter the seed thinly, after watering, if the seed bed be dry, and cover with fine soil, which also must be moist. Where slugs are troublesome dust over the plants occasionally with soot and lime, these dressings being useful against "fly" and "blackleg." The fly or Turnip flea beetle (*Haltica nemorum*) often does considerable harm to the young plants, especially in droughty periods, and when not duly attended to in watering, while "blackleg" or the shrivelling of the stems caused by the damping off fungus (*Pythium De Baryanum*) is induced by freshly manuring, thick seeding, and wet weather, or keeping the seed bed too moist by unnecessary watering.—A. G.

(To be continued.)

Shrewsbury 1900!

THE show—the great show—at Shrewsbury for the year 1900 is past. It has been well and fully reported, and, I think, a word or two should be said not only on the clearness and comprehensiveness of the report in our Journal, but on this, to my mind, present day journalistic feat, as showing the ability of the reporter, or reporters, in the quickness and faithfulness of that report, the enterprise of the proprietor and editor, the celerity shown by the compositors and printers, and the promptitude in despatching the copies, so that the report of the show of Wednesday was read in the secretaries' tent at Shrewsbury on Thursday afternoon, and by the many readers of the Journal at their homes who have a midday delivery of letters, just, or nearly so, twenty-four hours after the first notes were made when the judges had finished their duties at midday on Wednesday. This is the first time that such a feat has been accomplished in connection with the Journal, and it speaks volumes for its proprietor and editor, and for the ability of the staff of workers. I feel that all readers will agree with me that such a feat should not go unchronicled, as I am sure it did not go unrecognised.

I shall say nothing here as to the show of 1900 as a whole. All that has been said in previous years may be said again of the present year's show. It is simply unique, and, as one local writer in commenting upon it almost pathetically laments the fact that he has used up all the applicable adjectives in his comments in previous years, there is nothing for him on the present occasion but to go back and use them all over again. That is so. Once see it, the show, the grounds, and the people, and then you fall back on good Dominie Sampson's great exclamation, "Prodigious!" After the purely professional horticultural treasures composing the show to a gardener have been examined and digested, the great thing that strikes him is the People (People with a big P), and especially on the second day, as he sees them come into the Quarry and move about, seeing the show, the "Flower Show," as they call it, listening to the music, laughing at the "fun of the fair," gazing in wonderment at marvellous trapeze and other skilled performers, enjoying hugely, being largely country folk, the horse leaping, watching in thrillingly pleasurable excitement the filling of the balloons and their ascent into the clouds, and he asks himself the question, not once nor twice, Where do these thousands and thousands of well-dressed, good looking (especially the women), cheery and courteous, and well-behaved people come from? Why, they must come from all over the three kingdoms. No, they do not, as their speech tells; they are largely Salopians of every grade, with a large mixture of neighbours from the towns and villages of Wales, and visitors from the larger towns round about the county, as Birmingham, Wolverhampton, and Stafford. Of course, there are gardeners there from all parts of the country, but these are only a sprinkling; the brightness and alertness of manner, the sharp, crisp speech with its ascending note up to the last word in each sentence tells that the county owns them, and how they do enjoy themselves—innocently, heartily, sociably, thoroughly. It does one good to see it.

Only one note as to the show, and that in connection with the groups. This year the groups were arranged with what I may style two fronts, one on one side of the tent, and the other on the other. Usually they have been on the side with only one front, which is to my mind the better arrangement, for this reason: the visitors enter at one side or end of the tent, and after traversing it the whole length, come back to the same front only on another side, compelled to do this by the roped barrier put up to protect the groups and plants from injury. The consequence is that the visitors see one side, and being the entrance side, often the better and more attractive side of the respective groups, and do not see the other side until they have gone all round the tent, by which time they have lost the connection of group and group, and are unable to decide which is really the best and most worthy of the various prizes. This was brought home to me forcibly on my inspection

of them, with the first flow of visitors, on one lady exclaiming, "First prize here? Oh, but really, I think this ought to have had the first prize; look how much more attractive this is than that!" I was bound to say that there was ground for the lady's surprise and judgment

wrong, but it struck me that the groups this year were not up to the high artistic character of past years. It would be interesting to hear what the judges (Messrs. Hudson and Ranger) think on the matter of both position and quality.



FIG. 61.—CATALPA BIGNONIOIDES. (See page 225.)

until I got round and saw the other front, then the judgment of the judges was seen to be correct. It will be a question for the committee to decide another year, whether it will not be best to go back to their usual custom of having groups with only one face or front. I may be

I must stick to my resolve not to enter into a general criticism or comment on the show as a whole or in detail (that being so well done by the professional reporters) but content myself with these few cursory remarks rather out of the beaten track of the reporters.—N. H. P.

Horticultural Shows.

The Royal Horticultural Society of Ireland, August 28th.

THE autumn fruit and flower display was held under the auspices of the above society on Tuesday, the 28th inst., at Merrion Square, and it was a success, both financially and horticulturally; the general standard of quality was high. Gladioli were shown to advantage by Messrs. Kelway, Langport, who staged over two hundred spikes. Roses were finely shown by nurserymen, including Messrs. Hugh Dickson, Belmont, and Alex. Dickson & Sons, Newtownards. Begonias were splendidly exhibited by Messrs. Hartland & Son, Cork; Saunders, Cork; and McGredy, Portadown. In the amateur classes cut blooms were weak, excepting Begonias and hardy flowers; Sweet Peas and Dahlias were below the usual standard. The stand of hardy flowers staged by Mr. Porter for the Ardilaun cup was very choice, embracing Montbretias, Carnations, Tritomas, Gaillardias, Tigridias, Phloxes, Coreopsis, Gladioli, and Liliums in variety. Mr. A. Munro, gardener to Mr. W. H. F. Verschoyle followed closely. Fruit formed the finest feature of the show. The Grapes staged by Mr. Bradshaw, gardener to the Marquis of Downshire, were superb, his bunches taking the premier prize in all classes in which they were entered. Peaches were equally good, but Nectarines and Apricots, though small, were choice; Apples, Pears and Plums were of medium size, but in fine condition. Vegetables were well shown, and Lord Ashtown and Mr. W. Goff's gardeners took premier place in the collections of twelve and six distinct sorts in the order mentioned. The show was opened by her Excellency, the Countess of Cadogan.

For a stand of foliage and flowering plants Mr. Coughlan, gardener to Mrs. McComas, The Grange, Monkstown, was an easy first with choice Crotons, Palms, Cannas, and Allamandas. The same exhibitor was first for six exotic Ferns. Mr. J. Byrne, gardener to Mr. D. Drimmie, Bellevue, Booterstown; and Mr. Kearns, gardener to Mrs. Moore, Ashtown, Phoenix Park, staged some excellent Coleuses. Zonal Pelargoniums were well shown by Mr. Geoghegan, gardener to Mr. John Miller, Baggottrath House, Sandymount. In the cut bloom section Begonias formed the *pièce de resistance*. For a stand of eighteen single and a similar number of double varieties Mr. McKellar, gardener to Lord Ashbrook, Darrow, Queen's County, was first with an excellent collection. Lord Ashtown was a close second; and Mr. R. Hamilton Stubber third. The last named took premier place with a choice box of twelve doubles, Lord Ashtown being again second. For a dozen singles Lord Ashtown was first, and Lord Ashbrook second. In the class for twenty-four spikes of Gladioli Lord Ashtown was first, the blooms being well coloured and of medium size; Colonel H. Jarvis-White, M.A., J.P., was second. For one dozen spikes Lord Cloncurry, Lyons, Hazlehead, was first; and Mr. John L. Smallman, Dalkey, second.

Dahlias were best shown by Lord Cloncurry, who took the premier prize in the majority of classes. The honours for Carnations fell easily to Surgeon-General Beaumont, Palmerston, who also secured the Jarvis-White challenge cup. Sweet Peas, excepting those in Mrs. Bertha Doyne's stand, were weak; the winning group was tastefully arranged. Both French and African Marigolds were well to the fore. The stands comprised twenty-four cut blooms, and Lord Cloncurry was first for French, and Lord Ashbrook for African blooms.

The nurserymen's exhibits were very choice. Messrs. J. Henderson and Sons, Blackrock, staged miscellaneous flowers and plants; Messrs. C. Ramsay & Son, Ballsbridge, foliage and flowering plants; Messrs. Clibran & Sons, Altrincham, excellent hardy plants and shrubs; Messrs. Dicksons, Ltd., Chester, herbaceous plants; Mr. John Forbes, Hawick, Carnations and Pentstemons; Messrs. F. Drummond and Sons, Ltd., Dublin, herbaceous flowers and Coniferae; Messrs. Wm. Watson & Sons, Clontarf, Dahlias; and Messrs. Hogg & Robertson, Dublin, Tomato Twentieth Century. Mr. F. W. Moore sent from the Botanic Gardens, Glasnevin, a group of choice stove, foliage, and flowering plants. The Hon. A. H. F. de Montmorency staged Pelargoniums; and J. F. Lomhard, Esq., South Hill, Gladioli.

Brighton, August 28th and 29th.

ONE of the best shows ever held in Brighton took place in the Dome and Corn Exchange and in two tents placed on the lawn of the Royal Pavilion, for the exhibits were good all round, and the judges were found plenty to do. The day was dull but pleasant; the light under the Dome was defective, and it was difficult to distinguish the colours of some of the newer Cactus Dahlias shown in such fine character by Messrs. Stredwick, Mortimer, and Cheal. The original Brighton Society was established about 1854, but the exhibition to which this report refers was the ninth annual one held under the management of the Mutual Improvement Society.

In one of the tents were the groups of plants arranged for effect, and they were excellent throughout. Mr. Geo. Miles, Victoria Nursery, Brighton, was first with appropriate flowering plants, mingled with excellent foliage plants. Mr. J. Hill, gardener to C. Wallis, Esq., Withdean, was second, and Mr. G. Sims, gardener to E. A. Wallis, Esq., Lewes Road, third. The holding of the Corporation challenge cup for

one year goes with the first prize in this class. Here, too, were the groups of Ferns, a feature peculiar to Brighton. The best—an artistic arrangement—came from Mr. Jas. Adams, gardener to the Rev. Sir G. C. Shiffner, Bart., Lewes; *Adiantum farleyense*, well coloured, was employed with excellent effect. Messrs. J. Hill & Son, Edmonton, were second, and Mr. Geo. Miles third. The groups in the amateurs' division were also in this tent. The first prize was awarded to Mr. W. E. Anderson, gardener to B. Parish, Esq., Preston Park; Mr. James Adams was second. Stove and greenhouse plants were shown by Mr. J. Warren, Handcross Park, Crawley, who had *Ixoras amabilis*, coccinea, and *Williamsi*; *Allamanda Aubleti*, which is seldom seen in collections, and two plants of *Lapageria rosea*, one a little paler than the other.

Under the Dome could be found the tables, 8 feet by 4 feet, of flowering and foliage plants. In the open class the best came from Mr. E. Lawrence, gardener to T. Oliver, Esq., Horsham; Mr. Geo. Miles was second, and Mr. H. Head, Drive Nursery, Hove, third. In the gentlemen's gardeners' and amateurs' division Mr. A. J. Blake, gardener to W. E. Blakeston, Esq., Brighton, was first, and Mr. J. Harper, gardener to E. A. Tucker, Esq., Preston Park, third. Collections of Orchids arranged with Ferns were also shown on tables. Here Mr. H. Garnett, gardener to R. G. Fletcher, Esq., Brighton, was first; Mr. J. Harper second, and Mr. F. Collis, gardener to Mrs. Hughes, Preston Park, third.

Mr. J. Warren took the first prize with six fine Ferns. Messrs. Miles & Co., Hove, Brighton, were second. There were classes also for six Ferns in pots of limited size, and for the same number of British Ferns. The best six Crotons came from Mr. J. Warren; Mr. H. Garnett was second; and Messrs. W. Miles & Co. third. Mr. Warren also had the best six *Dracaenas*; Mr. Garnett was second; and Mr. E. Lawrence third. Palms were also shown in sixes, and some small but well-developed specimens were staged. *Coleus*, *Caladiums*, and table plants were also staged. Tuberous Begonias made a good feature. The best twelve specimens came from Mr. Fairs, gardener to B. Clowes, Esq., Hassocks. Mr. L. E. Cooke, gardener to Miss Smith, Withdean, was second. Mr. H. Head had the best six *Fuchsias*; Mr. Fairs the best four *Zonals*; and Mr. W. E. Anderson the best four specimen Ivy-leaved *Pelargoniums*.

Cut flowers are always one of the strong points in a Brighton autumn show. There was only one collection of twenty-four bunches of stove and greenhouse cut flowers; it was from Mr. J. Davis, gardener to E. H. Thurlow, Esq., Uckfield, and was deservedly awarded a first prize. Roses were good for the season and weather. The best twenty-four came from Mr. Will Tayler, Hampton; Mr. G. W. Piper, Uckfield, was second; and Mr. H. Harris, Deane Park, third. With twelve Teas and Noisettes, Mr. Piper was first; Mr. W. Tayler was second; and Messrs. Durrant Young, & Co., Eastbourne, third. Gladioli were remarkably well shown in collections of twelve spikes. Mr. G. H. Sage, The Gardens, Bayham Abbey, Lamberhurst, was first, and Mr. H. J. Stenning, Tunbridge Wells, second.

Dahlias have been a leading feature at Brighton for years past. An excellent forty-eight Show varieties gained the first prize for Mr. S. Mortimer, Swiss Nursery, Farnham, who had excellent blooms of several of the leading varieties. Messrs. Cheal & Sons, Crawley, were second, and Mr. W. Peters, Holmhurst, third. Messrs. Cheal & Sons were the only exhibitors of twenty-four bunches of single varieties, having flowers of excellent quality. Cactus Dahlias in bunches of twelve varieties were very good. Messrs. J. Cheal & Sons were first, Mr. J. Stredwick, St. Leonards, was second, and Mr. S. Mortimer third. With twelve single Cactus Messrs. Cheal & Sons were again first. Collections of hardy perennials and bulbous flowers in eighteen bunches formed a very fine feature. Mr. G. H. Sage was awarded the first prize, having *Lilium speciosum*, *Tritomas*, *Crinum Powellii*, *Gladiolus*, *Monthretias*, *Gaillardias*, white *Everlasting Pea*, *Scabiosa caucasica*, and others in imposing bunches. Mr. W. E. Anderson was a good second, and Mr. J. Davis third. They were also well shown by gardeners and amateurs in bunches of twelve varieties. There were also classes for Asters, and bunches of annuals were most attractive.

There was a good display of fruit. Mr. E. Neal, Tilgate House, Crawley, had the best eight dishes, staging well-finished Black Hamburgh and Muscat of Alexandria Grapes, Peaches, Nectarines, Apples, and Pears. Mr. W. Cheater, Cosham, was awarded the second prize. There were classes for Muscat of Alexandria and any other white Grape, also for Black Hamburgh and any other black, but our notes of these were unfortunately lost. Some excellent bunches were staged. Mr. S. Mortimer had the best pair of Melons. Peaches and Nectarines were shown in pairs of varieties, and also in single dishes. Pears and Apples were plentiful and in good character. Plums were largely shown, some fine fruit of Green Gages especially being staged. Cherries, Figs, and small fruits were also staged in their classes. Vegetables were excellent.

Floral decorations were very good. The best bride's bouquet came from Messrs. Maggie Baldock, Brighton; Messrs. Durrant Young and Co. were second. Messrs. Baldock & Co., Brighton, had the best ballroom bouquets, and Messrs. Durrant Young & Co. were again second. The best device was an anchor, a piece of highly artistic work, from Mr. F. Webber, Tunbridge Wells; Mr. E. E. Russell, Lewes, was second with an elaborate wreath of white flowers; Messrs. Baldock & Co. were third. The latter had the best dinner-table arrangement; a charming arrangement with Orchids and

appropriate foliage. Mr. F. Rapley came second with a centrepiece and its adjuncts formed of Sweet Peas.

Messrs. W. Balchin & Son, Hassocks and Brighton, had a fine collection of miscellaneous plants and cut flowers; Messrs. T. S. Ware, Ltd., Feltham, excellent Begonias; Mr. G. W. Piper, Sunrise and other Roses; and Messrs. T. Rivers & Son, Sawbridgeworth, a grand collection of fruit trees in pots, and also gathered fruit of very fine quality.

Bath, August 29th and 30th.

AFTER a series of unfavourable days the committee of the Bath Floral Fête has at last been able to chronicle a success as regards the weather, while the exhibition was one of the best ever held at Bath, also comparing very favourably with those that had preceded it in various parts of the country.

Fuchsias are always the principal feature at these Bath Shows, and nowhere else probably has so grand a collection been seen this season. The first prize for nine plants was gained by Mr. G. Tucker, Hilpertons Marsh, Trowbridge, who staged perfect pyramids, standing about 10 feet high, of Mrs. Molesworth, Doel's Favourite, Mrs. H. Roberts, Diamond Jubilee, Charming, Gem of Lavington, Tucker's Favourite, Mrs. Bright, and Final. Mr. T. Parrott, gardener to P. Huth, Esq., Freshford, a new exhibitor, was a very creditable second; and the veteran grower and raiser, Mr. James Lye, Lavington, third, for somewhat smaller but grandly flowered novelties of his own raising. The best six varieties were shown by Mr. H. Chislett, gardener to E. T. D. Foxcroft, Esq., Hinton, Charterhouse, these consisting of tall, well-flowered pyramids of Charming, Tucker's Rival, Mrs. Robertson, Final, Bountiful, and Doel's Favourite. Mr. A. Young, gardener to Lady Pitman, Bath, also staged well grown plants, and was second, the third prize going to Mr. W. A. Burford. Single specimens of different colours were also remarkably good, the prizes being won by Messrs. Tucker and Chislett.

With eighteen stove and greenhouse plants, not less than six to be in flower, Mr. J. Cypher was easily first, showing the grand Palms, Crotons, Ixoras, Ericas, and the like that are always a great help to an exhibition. Messrs. J. B. Woods & Son, Chipping Sodbury, were second, and Messrs. E. Cole & Son, Bath, third. For six flowering plants Mr. Cypher was well first, showing grand plants of Bougainvillea glabra, Bougainvillea Cypheri, Rondeletia speciosa major, Ixora Duffi, Phœnocomma prolifera Barnesi, and Allamanda nobilis. Mr. G. Tucker, Trowbridge, was a good second. There were seven competitors with three flowering plants, Mr. G. Hallett, Bath, being first, Messrs. B. Woods & Son, second, and Mr. W. H. Lawes third. Exotic Ferns were to be seen at their best. For six specimens Mr. J. Mitchell, gardener to A. P. Stancombe, Esq., Trowbridge, was first, and Mr. W. Denton, gardener to the Rev. Yorke Faussett, Bath, second. Messrs. G. Tucker, E. S. Cole & Son, Geo. Cooling & Sons, Bath; W. J. Stokes and Son, Hilpertons Marsh; H. Chislett, S. Johnston, and J. Cypher were among the most successful exhibitors in various other plant classes. Three competed with groups arranged for effect on a space not less than 100 square feet, Mr. J. Cypher easily winning the first prize for a group excellent alike for its lightness and quality of the plants used. Messrs. E. S. Cole & Son were second, and Mr. H. Plance, gardener to Major Doherty, Bath, third.

Cut flowers were numerous, and the competition was very close in most of the classes. Mr. J. Mattock, Oxford, staged the best thirty-six spikes of Gladioli; Mr. F. Dobree, Wellington, and Mr. A. A. Walters, Bath, taking the remaining prizes. For twelve varieties Mr. G. Humphreys, Chippenham, was first; Mr. J. Walker, Thame, second; and Mr. W. T. Mattock, Oxford, third. With Dahlias Mr. W. Treseder, Cardiff, and Messrs. J. Cray & Sons, Frome, were the most successful; Messrs. G. Humphries, T. Haskins, T. Carr, and J. Walker taking the remaining prizes. Roses were also numerous and good, and with these Messrs. Perkins & Sons, Coventry; J. Mattock, A. A. Walters, W. T. Mattock, and G. Garaway, Bath, were the prizewinners. With stove and greenhouse flowers Mr. G. Tucker was first; and Mr. T. Wilkins, gardener to Lady Theodore Guest, Henstridge, second. Asters were remarkably good, and the most successful with these were Messrs. J. Cousins, F. Hooper, H. G. Francis, and G. Francis. There was a grand display of herbaceous flowers, and with these Mr. A. A. Walters was first, G. Cooling & Sons second, and W. J. Stokes & Son third. A display of Roses in vases was a new feature, and proved very attractive. Mr. J. Mattock was first, G. Cooling & Sons second, and G. Garaway third. There was good competition with decorated dining tables, vases, bouquets, and the like.

Fruit, as usual, occupied one fairly large tent, and in every class the competition was good. There were seven collections of eight dishes, the first prize going to Mr. W. Mitchell, gardener to J. W. Fleming, Esq., Romsey, who had good Madresfield Court and Black Hamburgh Grapes, Hero of Lockinge Melons, fine Sea Eagle Peaches and Pitmaston Orange Nectarines, Brunswick Figs, Pond's Seedling Plum, and Morello Cherries. Mr. G. Hall, gardener to Lady Ashburton, Romsey, was a good second, and Mr. T. Wilkins third. The display of Grapes in the class for eight bunches, in four varieties, was somewhat disappointing, Alderman Chaffin's fine Grapes not being quite forward enough to enter. Mr. W. Mitchell was easily first, showing five bunches of Madresfield Court, Black Hamburgh, Gros Maroc, and Muscat of Alexandria, all perfectly ripened. Mr. W. Marsh, Bath, was second; and Mr. T. Jones, Bath, third. Three perfect

bunches of Black Hamburgh gained Mr. Mitchell the first prize in the class for that variety, Mr. J. Jones being a good second, and Mr. Hall third. Ten competed in this class. In the any other black class Mr. Mitchell was first with well finished Madresfield Court, the second prize going to Mr. Marsh for beautifully finished Alicante, the Bromham Fruit Co. taking the third prize. The last named exhibitors were first for Muscat of Alexandria fairly well ripened, and Mr. W. Marsh was a very close second. With any other white variety Mr. Sutton, gardener to Miss Todd, Bristol, was first with Buckland Sweetwater, large clusters, beautifully coloured; second, Mr. W. Mitchell, with Foster's Seedling.

Melons were numerous, but not many of them were of good quality. For a green-fleshed variety, Mr. E. Adlam, gardener to E. C. House, Esq., was first with Royal Jubilee, second Mr. Mitchell. Mr. Adlam was also first in the class for other varieties with Blenheim Orange, second Mr. W. Trevillian, gardener to Ralph Price, Esq., Yatton. The winners of the special prizes for Melons offered by Messrs. Sutton and Sons, Reading, were Messrs. T. Wilkins, G. Hall, W. Mitchell, T. Parrott, and W. Allen. Mr. Mitchell was first for Peaches, showing large well coloured Sea Eagle, second the Frome Flower and Fruit Co. An excellent dish of Pineapple gained Mr. Mitchell the first prize for Nectarines, Mr. J. Atkins, gardener to Mrs. Greaves, being second. Apples, Pears, Plums, Figs, Cherries and Filberts were largely and well shown, and with these some of the principal prizewinners were Messrs. Hall, J. Carr, E. Ricketts, W. Mitchell, T. Jones, G. Garaway, E. Hall, W. Fisher, W. J. Willecox, W. G. Tylee, J. Hinton, and H. Bullin.

Vegetables were shown in large quantities and of excellent quality generally. Mr. T. Wilkins was the most successful exhibitor, Mr. G. Garaway also doing well.

Non-competitive were more numerous than usual. Messrs. G. Cooling & Sons had a fine display of garden Roses; Messrs. Luplin and Sons, Newton Abbott, arranged a group of cut Dahlias and Carnations; Messrs. I. House & Son, Westbury-on-Trym, staged a bank of cut herbaceous Phloxes and remarkably fine Pentstemons; Messrs. Webb & Sons, Stonbridge, exhibited annuals and other cut flowers; Mr. W. Treseder had a stand of new Cactus Dahlias; Mr. A. A. Walters a bank of cut flowers; Mr. G. Garaway staged upwards of fifty distinct varieties of well-grown Apples in dishes; Mr. Blackmore, Twerton, arranged a grand bank of cut tuberous Begonias on moss; and Mr. W. Taylor, gardener to Alderman Chaffin, Bath, showed fine bunches of Madresfield Court and Canon Hall Muscat Grapes.

Wellingborough and Midland Counties Dahlia Society.

August 30th.

FIVE years ago this society held its first Dahlia show. On that occasion some of the exhibitors appeared, from the character of the flowers they staged, to have an imperfect idea of what constituted quality in an exhibition Dahlia. They staged large, coarse, open-eyed blooms, thinking apparently that mere bulk would win. Not a few were disappointed; but those who exhibited were not slow to perceive what, in the opinions of the judges, constituted quality in the Dahlia. The second year some of the growers from the south took down their flowers, and these furnished excellent object lessons to the working shoemakers at Wellingborough who exhibit in the amateurs' and cottagers' classes. For four years the exhibitions were held in the Corn Exchange, but the public attendance was not equal to the expectations of the committee, and this year Mr. Pendered, the president, invited the committee to hold the exhibition in the charming grounds of his residence at Redwell. A spacious tent was erected, and the grounds and gardens thrown open to the public. The townspeople, influenced by Mr. Pendered's generous action, rallied to the support of the committee; the subscription was increased, and on the occasion of the fifth show a large number of persons wended their way to Redwell, the weather being delightful. Mr. Pendered's garden appeared to be quite as popular as the Dahlias. His own plantations of Dahlias, and especially of the Cactus type, which he grows remarkably well, called forth considerable interest.

The leading open class for Show and Fancy Dahlias was for thirty-six distinct varieties, and Mr. John Walker, Thame, was awarded the first prize for an excellent collection of good size, even, and symmetrical. The principal varieties were Mrs. W. Slack, Gaiety, James Cocker, Chieftain, Muriel Hobbs, Shottesham Hero, John Wyatt, Maud Fellowes, Mr. Glasscock, Mrs. Every, Buffalo Bill, John Ashby, Mrs. Saunders, Florence Tranter, a lovely bloom; Mrs. Morgan, Kathleen, John Standish, Dr. Keynes, J. F. West, George Rawlings, and Duke of Fife. Mr. S. Mortimer, Farnham, who had very good blooms of John Hickling, Duke of Fife, J. T. West, Glowworm, John Walker, Diadem, Harry Turner, Frank Pearce, Spitfire, Mrs. Gladstone, Mr. G. Harris, Virginale, Subeam, R. T. Rawlings, Arthur Rawlings, and Harrison Weir, was second, and Mr. George Humphries, Chippenham, third. With twenty-four varieties Mr. J. Walker was again first, staging in this class finely finished blooms of similar varieties to those enumerated above. Mr. George Humphries was second, and Mr. S. Mortimer third. For twelve blooms the prizes went to these growers in precisely the same order.

In the two following classes for Cactus Dahlias, the blooms were shown on boards, as in the case of the preceding ones, and as the blooms were large and finely developed they were seen to great advantage.

With eighteen blooms Mr. S. Mortimer was placed first with Mrs. Carter Page, The Clown, Lucius, Mrs. J. J. Crowe, Exhibition, Charles Woodbridge, Keynes' White, Ebony, Starfish, Magnificent, Innovation, Mary Service, and Mayor Tuppeny; Mr. J. Walker, who had J. F. Hudson, Debonair, Countess of Lonsdale, Mary Service, Innovation, Britannia, Magnificent, Lucius, and Sylph, was second; and Mr. W. Baxter, Woking, third. With twelve blooms Mr. J. Walker was first, having in fine character Britannia, Zephyr, Lucius, J. F. Hudson, The Clown, Mary Service, Night, Stella, and Magnificent; Mr. S. Mortimer was second with Starfish, Britannia, Viscountess Sherbrooke, Charles Woodbridge, The Clown, Keynes' White, Radiance, Countess of Lonsdale, and Mrs. J. Goddard; and Mr. W. Baxter third. There were two competitors with twelve bunches of Cactus, three blooms in a bunch, and Mr. S. Mortimer took the first prize with Britannia, Monarch (new), Charles Woodbridge, Purity (white, new), Lucius, Mrs. J. J. Crowe, Mrs. J. Goddard, Exquisite, Zephyr, and Mayor Tuppeny; Mr. J. Walker was second.

There was only one collection of twelve bunches of Pompon Dahlias, six blooms in a bunch, that from Mr. J. Walker, which was deservedly awarded a first prize. The leading varieties were Cheerfulness, Opal, Adrienne, Sunny Daybreak, Bacchus, Ganymede, Douglas, Emily Hopper, Tommy Keith, and Rosalie. A very even collection of the proper size. Mr. Walker also took the first prize with a vase or epergne of Dahlias, having a vase with small-sized Cactus Dahlias on long stems, arranged with appropriate foliage. Mr. Geo. Douglas, Wellingborough, was second.

Mr. A. Dunmore offered special prizes for three blooms of a yellow Show Dahlia. Mr. S. Mortimer was placed first with R. T. Rawlings, and Mr. Walker second with John Hickling. Mr. Mortimer's special prize for the best new seedling Cactus Dahlia in the show, which had never before been exhibited, was awarded to Village Maid, exhibited by Mr. John Green, Dereham. This is a somewhat distinct variety of a promising character, but only one well-developed bloom was staged.

Amateurs' Division.

These classes were well contested, and some good blooms were staged. For twelve Show Dahlias Mr. A. Robinson, Wellingborough, was first with good blooms of Mrs. Gladstone, Dr. Keynes, Prince of Denmark, Mr. G. Harris, Mrs. Saunders, R. T. Rawlings, J. Walker, Buffalo Bill, and Mr. Glasscock. Mr. T. Pendered, Redwell, was a close second with Mrs. Gladstone, Goldfinger, Peacock, Mrs. Langtry, and Mrs. J. Downie; and Mr. J. York, Desborough, third. With six blooms Mr. A. Robinson was again first, Mr. J. York was second, and Mr. T. Pendered third. There were six entries of twelve Cactus Dahlias, Mr. H. Bindley, Desborough, was an excellent first with Mrs. Carter Page, Lucius, Britannia, Mary Service, Magnificent, Loyalty, Countess of Lonsdale, Starfish, Lovely, and C. Woodbridge. Mr. T. Pendered was second; his leading blooms were Countess of Lonsdale, Mrs. Carter Page, Island Queen, and Cinderella. Mr. H. A. Needs, Horsell, Woking, was third. With six blooms Mr. J. York was first, Mr. E. Matthews, Wellingborough, second, and Mr. W. Prentice, Wellingborough, third. Mr. H. Bindley had the best six bunches of Pompon Dahlias, three blooms of each, and Mr. W. Prentice was second.

The best twelve blooms of Cactus Dahlias, competing for special prizes given by Mr. R. Dean, came from Mr. T. Pendered, who had good blooms of Loyalty, Britannia, Countess of Lonsdale, Lucius, Fusilier, Cinderella, Mary Service, Starfish, Emperor, and Capstan. Mr. T. Coles, Wellingborough, was second; he had Arachne, Island Queen, Beatrice, Keynes' White, and Charles Woodbridge; third Mr. H. A. Needs. Mr. John Green's special prize for six blooms of Cactus Dahlias brought one exhibit from Mr. W. E. Prentice.

In the cottagers' classes the best twelve blooms of Show Dahlias came from Mr. W. Gennis, Wellingborough; Mr. W. E. Prentice was second. Mr. W. Spriggs had the best twelve blooms of Cactus varieties, and Mr. W. Gennis was second. There were some smaller classes, and also one for twelve cut blooms of Asters.

Some classes for fruit found a place in the schedule, and four were open to all. Mr. T. Pendered had the three best dishes of culinary Apples, staging Lord Suffield, Warner's King, and Peasgood's Nonesuch, all of good character; Mr. Geo. Douglas came second. Mr. Pendered also had the three best dishes of Pears, staging good fruit of Pitmaston Duchess, Louise Bonne de Jersey, and Marie Louise; Mr. J. Douglas was again second. Mr. Pendered again scored with three dishes of Plums, having Washington, Kirke's, and Victorias; Mr. Douglas was second. There were classes for fruit and vegetables shown by cottagers, all highly creditable, and showing that the soil in the cottage gardens and allotments of Wellingborough is favourable to a clean and handsome development.

A first-class certificate of merit was awarded to Cactus Dahlia Winnie Walker (delicate primrose suffused with white on the points of the petals, distinct, and very pleasing), from Mr. S. Mortimer; and also to Cactus Baden Powell (deep red, with a shading and tipping of maroon on the pointed petals, also very distinct and striking), from Mr. John Green (Hobbies & Co.), Dereham. A large and very interesting collection of cut Cactus Dahlias were staged by Mr. J. Green and Messrs. Dobbie & Co., Orpington. It is satisfactory to know that the attendance in the evening was unusually large, showing that the townspeople fully appreciated the floral treat provided for them.



Fruit Forcing.

Melons.—In order to enhance the flavour of the fruit maintain a brisk heat by day with sufficient ventilation to insure a circulation of air constantly. Keep water from the house when the fruit commences ripening, supplying only enough to prevent the foliage from flagging. Plants swelling their fruit should be assisted with weak liquid manure whenever they become dry. Keep the laterals well in hand, and look out for canker, rubbing quicklime into the affected parts until quite dry, repeating as necessary. If there is any fear of cracked fruits, cut the stems about half way through a little below each fruit, and admit air freely, keeping the atmosphere moderately dry by a little ventilation.

Latest Melons.—The plants being now well up the trellis and showing fruit blossoms, will require to be fertilised daily when fully expanded, the atmosphere being kept dry and a little ventilation given at night so as to secure a circulation of air and prevent the deposition of moisture on the flowers. Stop the shoots at the time of fertilisation one joint beyond the fruit. As soon as a sufficient number of fruits are set on a plant remove all the staminate and pistillate flowers, reducing the fruits to three or four on a plant, or according to their vigour. Earth up the roots after the fruit is fairly swelling, and be careful in syringing the foliage, only doing it on fine afternoons, but maintain a genial condition of the atmosphere by damping in the morning and afternoon. Take care not to give too much water at the roots, but encourage healthy root action by moderate moisture in the soil. Maintain the temperature at 70° to 75° by day, 80° to 90° from sun heat, and 60° to 65° night.

Melons in pits and frames will not require much further damping over the foliage, and should only have sufficient moisture in the soil to prevent the foliage flagging. This should be kept rather thin and the fruit well elevated above on pieces of slate on inverted flower pots. Apply good linings to the beds for affording the requisite heat to finish the fruit satisfactorily, maintaining also a dry atmosphere with free ventilation.

Strawberries in Pots.—Late runners may yet be potted, giving them 5 or 6-inch pots, and if these are filled with roots before winter the plants will produce good fruit. Such plants, however, do not bear so plentifully or such large fruit as those potted earlier, nor are they suitable for early forcing, but they do well for succession, especially when brought forward gently. Plants potted some time ago must be examined, and if making side buds these should be removed with a pointed piece of hard wood so as to throw the vigour into the central crown. This, however, must not be carried too far, leaving two buds, or even three, when the crowns are of rather small size. If the plants grow vigorously liquid manure will not be necessary, but those that are weakly should be supplied with it twice a week. Remove all runners as they appear, and loosen the surface of the soil, especially round the side of the pots, so as to secure the more thorough moistening of the ball. As the plants grow set the pots wider apart. If red spider attack the plants hold each inverted with one hand, and with the other dust the under side of the leaves with soot from a dredger.

Vines.—*Early Forced in Pots.*—To afford a supply of new ripe Grapes in late March or early in and through April, these are usually more satisfactory than planted out Vines, as very early forcing is a great strain, and the subjects soon give indications of enfeeblement. It is better, therefore, in practice to secure well-ripened canes in pots, and after cropping them once throw the Vines away, new, stout, well-matured ones being provided annually to take their place. Those for starting in November will now have the wood brown and hard, the buds perfected, and the foliage sufficiently matured, if not off, for the removal of the laterals. Shorten the canes to from 6 to 8 feet, according to the vigour, trellis to be occupied, and position of the plump buds. Keep the Vines rather dry at the roots, and in a cool, airy house. The most suitable varieties are White Frontignan, Foster's Seedling, Black Hamburgh, and Madresfield Court.

Earliest Forced House.—Where care has been taken to preserve the principal foliage by cleanly culture and a judicious encouragement of the laterals after the fruit was cut to prevent premature ripening of the principal leaves, the early forced Vines will now be in a condition to have the laterals reduced, also the bearing shoots, which will tend to induce rest and admit of early final pruning. This may be performed on early forced Vines before the leaves are all down, as the wood being brown and hard, and the leaves, or some of them, turning yellow, they will not bleed or start the buds provided the house is kept dry, fully ventilated, and cold. It is important that the house be thoroughly cleansed. Any weakly Vines, or those in an unsatisfactory state, may be improved by removing the soil down to the roots, and substituting fresh loam, with an admixture of one-sixth of old mortar rubbish, a tenth of wood ashes, a fortieth of crushed bones, and a sprinkling of some approved fertiliser. Lift any roots

available for the purpose, laying them out upon the fresh compost, and cover 3 or 4 inches deep. This is best done before the fall of the leaf. It is a mistake to allow Vines when at rest to become dust dry at the roots. The outside border should have a covering of some kind to protect the roots from the heavy autumn rains. Glass lights are preferable, as they throw off heavy rains, whilst allowing the sun to penetrate the soil. Where such aid cannot be had a covering of leaves and litter after cold weather sets in, to prevent the soil freezing, is an absolute necessity in early forcing.

Succession Houses.—Midseason Vines have the fruit ripe or ripening, and will need a free circulation of air, especially in the early part of fine days, as the night dews are heavy, and the condensation of moisture on the berries takes place rapidly indoors if the atmosphere rises considerably before air is admitted. The laterals should be kept from interfering with the access of light and air to the principal leaves, otherwise a good spread of healthy foliage over black Grapes is one of the best safeguards against their losing colour. White Grapes also do not become brown so soon when not exposed to the direct rays of the sun as they do when the foliage is thin. Where the Grapes have been cut the laterals may be reduced, also the long bearing shoots cut back to two or three leaves above the pruning buds. This will facilitate cleansing the foliage of red spider and other pests, and assist in plumping the basal buds as well as the ripening of the wood by the increased amount of light.

Late Grapes.—Where the Vines were started in good time the Grapes are well advanced in ripening. Keep the laterals thinned to admit air to insure the finishing of the crop. Maintain a temperature of 70° to 75° by day, 60° to 65° at night, increasing to 80° or 85° with sun in the daytime, accompanied with a circulation of air constantly and free under favourable atmospheric conditions. Where the Grapes are only beginning to colour somewhat sharp firing will be required to finish them properly before the days are too short and cold to admit of free ventilation, it being possible to do more in the next month or six weeks' time than in twice the time later on. With the Grapes well advanced in colouring and ripening the atmospheric moisture should be reduced; those only colouring should have a moderate amount of atmospheric moisture to assist their swelling, not neglecting to supply water to the roots as required.

Young Vines.—Where these have made a strong growth and are late in ripening they should be assisted with fire heat, continuing it until the wood is ripe, accompanied with free top and bottom ventilation. Discourage any further growth by the removal of the laterals as they appear, and withhold water from the roots, only the soil must not be allowed to become too dry, and if the roots have the run of outside borders some spare lights placed over the border so as to throw off the wet will be very beneficial. If the autumn be dry the border is better exposed, but heavy rains must be thrown off.

The Kitchen Garden.

Brussels Sprouts and Cauliflowers.—Those with abundance of house and frame room can easily raise all the Brussels Sprouts plants they require early in the year, and since the introduction of extra early Cauliflowers the need for raising plants of these in the autumn has almost disappeared. With market gardeners and amateurs the case is different. The former will do well to sow seeds at once of Brussels Sprouts either broadcast or in shallow drills 5 inches apart, thinly in both cases, the plants remaining where they come up, with little or no protection throughout the winter. In this way either large or small quantities may be had early next planting season with a minimum amount of trouble. Any raised in August are apt to become too large unless checked by pricking out the more forward into nursery beds. Cauliflower plants may be raised and wintered in the same way, only these will require more protection.

Cabbage.—A showery time has been favourable to seed germination and plant growth, and there should be no undue delay in moving the earliest. Pricking them out in nursery beds, and from these transplanting to their winter quarters, is a plan favoured by some growers, and it has the merit of checking rank growth. The later plants may be moved, if strong enough, direct to their final quarters not later than the first fortnight in October. In order to have good early crops the plants must be put out on rich ground. They may be planted in close succession to Onions, a crop that is usually highly favoured as regards manure, merely clearing the ground of weeds and planting in drills, or the ground selected may be heavily manured, dug, and planted. The smaller varieties of Cabbage, notably Wheeler's Imperial and Ellam's Dwarf Spring, do not require much space—they may be put out 15 inches apart each way—but the larger sorts require to be planted 18 inches apart in rows 2 feet asunder. If more seed is sown now the plants resulting may become just strong enough to stand in the seed beds till next spring, when they will be useful for successional planting.

Lettuce.—For standing out unprotected through the winter the best sorts are the Brown Cos, Hicks' Hardy White Cos, Hammersmith, and All-the-Year Round, the two latter being Cabbage Lettuces. The seed should be sown now, thinly, broadcast, on somewhat poor ground, covering it with a little sifted soil. The beds ought to be kept free of weeds, and if slugs are troublesome the plants must be dusted over occasionally with soot and lime. Earlier plants will require transplanting, or they will become too forward to withstand frost.

Spinach.—Where proper pains were taken with the preparation of the ground and good sound seed was sown the plants have come up strongly, and should attain to a serviceable size before the winter sets in. Weeds also come up quickly each time after the ground is cultivated, and these must be kept under. Hand-weed between the plants, at the same time lightly thinning these out, deferring the final thinning till the plants drawn out are large enough for use, and frequently stir between the rows with a Dutch hoe. A light surfacing of soot, applied prior to hoeing, acts most beneficially, and if the soil between the plants in the rows becomes cased over loosen it with a pointed stake. Winter Spinach is an important crop, paying well for all the trouble taken with it. Later sowings may be made now, the plants resulting remaining in a small state through the winter, and giving abundance of leaves well in advance of any obtained by sowing in February.

Tomatoes.—The open air crops have not been a great success this season. The fruit was late in setting, and is late in ripening. Large quantities will most probably either crack and decay prematurely, or be spoilt by the Potato disease that has already made its appearance in some districts. Of late years we have been favoured with exceptionally hot and dry Septembers, but it is unwise to reckon on a repetition of these, and the safer plan is to gather all the more forward Tomatoes and place them in a dry warm room to ripen. The fruit left on the plants will, if it escape disease, continue to swell, and all that are sound should be gathered and stored before frosts destroy the plants.

THE BEE-KEEPER.

The Use of Driven Bees.

THERE are many ways in which driven bees may be used at this season. In some districts they are plentiful, in others they are difficult to obtain. This may arise from two causes—the scarcity of stocks in skeps, and an objection on the part of the bee-keeper to have his bees driven. We have overcome the scruples of several bee-keepers by driving their bees and removing the honey from the skep at the same time. This has usually had the desired effect. When several skeps of bees are to be driven, which should always be done in the evening at this season, arrangements may be made beforehand as to their disposal. If they are intended for new colonies the hive should be prepared by placing some frames of fully drawn-out worker combs in position; quilts and coverings should be in readiness so that there may be no delay in introducing the bees to their new home. In a hive of this description two or more stocks of driven bees may be placed together. This can be done either at the time they are driven by shaking them all into one skep, or bringing them home in separate skeps and mixing them together before shaking them into the frame hive. If this is done the same evening they are driven it will not be necessary to sprinkle them with either flour or syrup, as they will unite after the excitement of driving them without any further trouble. Before shaking them into the frame hive a couple of the frames may be removed, or the frames drawn to either side of the hive; this will allow an open space in the middle of the hive in which to shake the bees. The quilt should at once be placed over them, and allow them to remain with additional covering till the following morning, when the frames may be placed the proper distance apart. They should be covered up warm and supplied with ample stores to tide over the winter.

Driven bees may also be given to weak colonies in frame hives. The bees to be operated on should be sprinkled with flour from a dredger—first on one side of the comb and then on the other, placing the frames wide apart. When this is done the driven bees should also be well dusted with flour, and at once shaken into the frame hive previously operated on. Drive the bees down with a little smoke and draw the frames together, cover them up warm, place a rapid feeder on the top, and do not disturb them for forty-eight hours. Another plan which we often practise is to brush the bees off their combs on to the floorboard. They are then dusted with flour, as advised above. The driven bees are mixed up with them. The frames are placed in their proper position. The bees immediately cover them, and thus they unite without the loss of a bee. Stocks that are well supplied with bees in the autumn, if headed by a young fertile queen, invariably winter well, and are strong and healthy the following spring. If an increase in the number of stocks is not required, the bees may be utilised as above.

When uniting bees it is not necessary to remove either of the queens, as the bees will soon settle that matter for themselves. But if one is an old queen and the other a young one, preference should always be given to the latter, and the old queen removed previous to uniting the bees.—AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Tomato Fruits Patchy (J. W. D.).—It is difficult to account for the peculiarities in the fruit, though it is of common occurrence, not only in Tomatoes, but in Apples. It probably arises from an excess of acids at some stage of the fruit's growth, which breaks down the cell walls in certain parts of the fruit, causing them to run together. The affected parts are rich in sugar, though deficient in malic acid; thus the part or parts affected do not change colour or become soft in the ripening. This is all that has been revealed by analysis, cellulose taking the place of pulp. It has been considered that the defect arises from the plants not receiving a sufficient supply of potash, especially in nitrate form, and this is borne out to some extent by experiment, as a supply of this element has reduced the tendency to a great extent, and in some cases dressings of nitrate of soda have given good results.

Pit for Growing Melons and Cucumbers (H. S.).—Whether a span-roofed pit facing south and running east and west would be as suitable for growing Melons and Cucumbers as a span-roofed pit with ends north and south is a somewhat difficult question to answer, as so much depends upon requirements. We therefore give the results of our experience. In the case of a span-roof pit facing south and running east and west we found that the plants of Melons were most satisfactory on the south side of the house, whether early, midseason, or late crops, these being earlier in ripening and the fruit of better quality. In respect of Cucumbers the plants on the south side of the pit were the most satisfactory in the autumn, winter, and early spring, but after March those on the north side were better in health and cropping and gave less trouble in shading. Taking note of these facts we were able in another case of a pit running east and west to turn them to advantage where both Cucumbers and Melons were required from the same structure, and both in request from an early to a late period. The Cucumber plants were grown on the north side, and the Melon plants on the south side of the pit.

Nectarines and Peaches Unsatisfactory (Tyrone).—The two Nectarine trees on the back wall of Peach house in a narrow border about 20 inches wide along the side of path, under which is laid the main pipes for heating Melon and other houses, cannot be expected to give satisfactory crops of fruit, as the roots, from the narrowness of the border, are not able to extend horizontally and push fibrellets near the surface. Owing to this the roots must, of necessity, take a downward course and penetrate deeply, probably into unfavourable strata beneath the drainage. The best remedy for the bud dropping is lifting, as this results in plenteousness of fibres, and then with due supplies of water the trees make a healthy growth, and are not so prone to over-maturity of the buds, which is a common cause of the dropping. This, however, is not practicable in your case, therefore it would be advisable to remove the soil carefully from over and amongst the roots, cutting off the suckers close to whence they issue, and supply fresh soil of rather a strong nature, packing it closely about them, and firming well. It should be done as soon as the leaves are all down, afterwards giving a good watering, and taking care that the soil does not become dry afterwards during the resting season. In the narrow border the trees will require much more frequent watering than were they in ordinary rooting area. It is well also to allow a little extension to the laterals, especially rather late in the season, as this tends to promote root action and supply nutriment for the perfecting of the buds.

Apple Goodwood Pippin (J. F. de M.).—This Apple received an award of merit from the Royal Horticultural Society in 1896, when it was shown by Mr. R. Parker, gardener to the Duke of Richmond and Gordon. The fruit is above medium size, $3\frac{1}{2}$ wide and 3 inches high; roundish, narrowing slightly to the apex; in shape smooth and symmetrical; colour yellow, occasionally splashed with red on the shaded side, and studded with numerous very small russety dots; sun side flushed with red and marked with several broken streaks of crimson; eye large and partially open, set in a wide, shallow, and very slightly puckered basin; stalk slender, short, within the level of the fruit, deeply inserted in a russet-lined cavity, some of the fruits having a fleshy protuberance next the stalk; flesh yellowish white, tender, yet crisp, and pleasantly flavoured. A good Apple, and suitable either for dessert or culinary purposes.

French Beans after Tomatoes (Beginner).—To have French Beans at the end of January and the first half of February the seed should be sown about the middle of November. If you clear out the Tomatoes by the last week in October, and sow the French Beans then or the first week in November, the plants would probably give pods fit to gather at the time you name, or before. The Beans should be planted an inch deep, and in rows 2 feet apart, thinning the plants to about 6 inches distance asunder, or the stronger-growing sorts may be thinned to 9 or 12 inches distance. It is not a good plan to attempt too much, and from our experience the growing of French Beans does not pay from sowings made before the early part of January, the crop being in towards the end of February. Earlier the price may be higher, but the crop discounts the returns to such extent as to render it unprofitable.

Peach Trees in Cool House Infested with Mildew (Tyrone).—The trees in the cool house should have been dressed with flowers of sulphur on the first appearance of the disease, repeating this occasionally until the pest had been subdued. In stubborn cases it is sometimes necessary to have recourse to rubbing the fruit with the sulphur where the mildew appears. In the case of a cool house great care is necessary in ventilating in spring and early summer, especially during spells of cold, dry, sharp weather, then admitting air by the upper lights only, or by the front or side ventilators, whilst keeping the top lights closed on account of unfavouring wind direction, so that the rush of air is outwards, and thus drives away the spores of the fungus. On the other hand, when the early day ventilation of fruit houses is neglected in bright, yet cold weather, and the bottom as well as the top ventilators are thrown open, the external air rushes in, and with it the mildew spores.

In your case, that of a cool house, syringing cannot be practised so much as in heated structures, otherwise forcible syringing, especially with water at a temperature of 130° to 135° , is the best preventive and remedy for mildew. What we now advise is the syringing of the trees where the fruit has been gathered with a solution of softsoap, 8 ozs.; flowers of sulphur, 4 ozs.; and 5 gallons of water, thoroughly dissolved and mixed. As the leaves fall collect and burn them, also all prunings. Then wash the trees with the solution just mentioned at double strength, using a brush, but taking care not to dislocate the buds. The surface soil of the border should also be cleared away, and a suitable top-dressing applied. Likewise thoroughly cleanse the floor. In the spring, as soon as the trees start into growth, dust the tender growths and fruits, or it may be blossoms, with flowers of sulphur, and especially after the fruit is set, as a preventive, and repeat occasionally, it being important that the sulphur be applied in advance of an attack of mildew.

Orange Tree Gumming (H. R. D.).—It is extremely difficult to stop gumming in any tree having a tendency to it by outward applications. If the gumming be a consequence of injury to the bark by a knock or otherwise, then cutting out down to the wood, so as to remove the gummed part, drying with quicklime, and covering the wound with grafting wax over a ligature of cotton is probably the best remedy. If it arises from constitution, then the plant should be repotted, and this is the best time to repot or retub Orange trees. Turn out the plant, removing as much of the soil as practicable without injury to the roots, clean out the tub, see that the drainage is clear, and supply fresh compost, made moderately firm but not very light. Good turfy loam, neither light nor heavy, torn up rather roughly, four parts, one part decayed manure free from worms, one part old mortar rubbish free from pieces of wood and broken small, and a sprinkling of half-inch



FIG. 62.—APPLE GOODWOOD PIPPIN.

bones and pieces of charcoal the size of a walnut form a suitable compost. Water carefully until the roots are working in the fresh compost, giving water only to keep the soil moist.

Saving Grapes from Wasps (M. N. R.).—The best and only effectual means is to stretch some hexagon netting over the openings for ventilation, and in such manner as to render the inroads of the wasps impossible. Clear glass bottles with rather wide necks half filled with a mixture of beer and sugar are good traps, wasps and hornets, with bluebottle flies, entering them eagerly, and rarely coming out again. They should be emptied every morning, using a colander to drain off the insects, which must at once be deeply buried, as they smell offensively. It is also advisable to destroy the nests of the wasps. They should be marked by day with a peg slit at the top and white paper inserted in the slit, and at night pour from a pint to a quart of coal tar through the spout of an old waterpot into the hole of each nest, when there will be a great hubbub for a few seconds, followed by significant silence. A teaspoonful of powdered cyanide of potassium placed in the entrance to a wasp's nest in the daytime causes its destruction. It is extremely poisonous.

Book on Grape Culture (Idem).—The best work on the subject is "Vines and Vine Culture," by Mr. A. F. Barron, published at the *Journal of Horticulture* office, price 5s. "Vine Culture Under Glass," by Mr. J. R. Pearson, is a very useful manual, also published at the office of this paper, price 1s., post free, 1s. 1d. It is not usual to include in works of this kind reference to such common pests as wasps, and only brief accounts of the chief insect and fungoid pests, as this would make the books very bulky, and restriction in such cases is imperative. The work you name is one of the best on Vine culture.

Pear Leaves Diseased (Kittie).—The leaves have been infested by the larvæ, called slugworms, of the Pear sawfly, *Selandria atra*, which feeds on the upper surface of the leaves of the Cherry as well as the Pear. As there are no slugworms on the leaves we presume they have passed to the ground and are now in the pupæ stage. In order to prevent a recurrence of the attack the surface of the ground should be skimmed off and the cocoons removed. These may be below the surface at from 1 to about 4 inches depth, according to the state of the soil. To destroy the cocoons the removed soil may be subjected to heat, or saturated with gas liquor diluted about three times with water. The soil thus treated may, after a time, say six weeks, be returned to the border or used elsewhere.

Peach Shoots Mildewed (Idem).—The shoots are badly infested, and indeed ruined with mildew. Such wood will not be of any use for forming the framework of the tree or trees, even when the mildew has been destroyed, as it may be by dusting with flowers of sulphur, thoroughly coating all the parts affected by means of a dredger, or better, an old worsted stocking. It is necessary that the sulphuring be thorough, and repeated occasionally. This ought to have been done at the commencement of the attack. As the trees are outdoors and against a wall they may be sprayed or syringed with a solution of sulphide of potassium, commonly called liver of sulphur, 1 oz. to 3 gallons of water, which is in some respects more effective than the sulphur treatment; but its use under glass is precluded on account of its discolouring paint, and also from its somewhat unpleasant odour.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (J. M.).—1, the variety cannot be determined from the solitary specimen submitted, possibly it is local seedling; 2, decayed, probably the Bloodgood; 3, Windsor. (One in Need).—The fruits were much crushed, but the remaining sound one closely resembled Rivers' Early Damson. (A. J. B.).—The only certain way to get the correct names is to send fruits of each to the nurseryman who supplied the trees; some were crushed, and in every case the shoots were dried. (D. A. D.).—Plum Cox's Emperor. The Apples are so undeveloped and out of character that we regret the impossibility of naming them.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (New Zealand).—*Cassinia fulvida*. (H. A. Joy).—1, *Polygonum cuspidatum*; 2, *Oncidium divaricatum*; 3, *Oncidium Jonesianum*. (H. J. H.).—1, *Nephrolepis tuberosa*; 2, Specimen insufficient. Fertile fronds of Ferns are essential for identification. See note above; 3, *Fuchsia fulgens*; 4, *Adiantum pedatum*; 5, *Francoa ramosa* (Bridal Wreath Flower); 6, *Cineraria maritima*. (F. H. H.).—*Liquidambar styraciflua*.

Covent Garden Market.—Sept. 5th.

The fruit market is glutted with produce, and the vegetable supply is a heavy one

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bushel ...	2 0	to 3 0	Nectarines, doz. ...	1 6	to 9 0
" cooking, bushel ...	1 6	3 0	Oranges, case ...	10 0	15 0
Cobnuts, doz. lb., best ...	4 0	5 0	Peaches, doz. small ...	1 0	2 0
Damsons ...	0 9	1 0	" doz., good size ...	6 0	9 0
Figs, green, doz. ...	1 6	3 0	Pears, per case of 36 ...	0 0	2 9
Grapes, black ...	0 6	2 6	" " 48 ...	2 9	3 0
" white ...	1 6	3 0	" " 56 ...	2 0	2 3
Greengages, box ...	0 0	1 6	Pines, St. Michael's, each	3 0	6 0
" sieve ...	4 6	6 0	Plums, $\frac{1}{2}$ bushel ...	2 0	3 0
Lemons, case ...	10 0	20 0	" Californian, per case	4 0	6 0
Melons, house, each ...	0 6	1 6	" common, sieve	0 6	1 0
" water, per case ...	3 6	5 0			

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	to 2 0	Leeks, bunch ...	0 1 $\frac{1}{2}$	to 0 0
Beans, French, sieve ...	2 0	3 0	Mint, green, doz. bunches	2 0	0 0
" scarlet, per bushel ...	2 0	4 0	Mushrooms, lb. ...	1 3	1 6
Beet, red, doz. ...	0 6	0 0	Mustard and Cress, punnet	0 2	0 0
Cabbages, tally ...	3 0	5 0	Onions, Dutch, per bag ...	4 0	4 6
Carrots, doz. bunches ...	2 0	3 0	Parsley, doz. bunches ...	2 0	0 0
Cauliflowers, doz. ...	1 0	3 0	Peas, English, per bushel	5 0	6 0
Celery, bundle ...	1 0	1 9	Potatoes, cwt. ...	3 0	5 0
Cucumbers, doz. ...	1 6	3 0	Shallots, lb. ...	0 2	0 3
Endive, per score ...	1 6	0 0	Spinach, bushel ...	2 0	0 0
Herbs, bunch ...	0 2	0 0	Tomatoes, English, per lb.	0 2	0 4
Lettuce, doz. ...	0 9	0 0	Turnips, doz. ...	2 0	3 0
" Cos, score ...	0 6	2 0	Vegetable Marrows, doz. .	0 6	1 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	1 6	to 2 0	Lily of the Valley, 12 bun.	15 0	to 18 0
Asters ...	4 0	6 0	Marguerites, doz. bnchs.	2 0	4 0
Carnations, 12 blooms ...	1 0	2 0	" Yellow doz. bnchs.	2 0	4 0
Cattleyas, per doz. ...	6 0	12 0	Odontoglossums ...	3 0	4 0
Eucharis, doz. ...	1 6	2 6	Pelargoniums, doz. bnchs	4 0	6 0
Gardenias, doz. ...	1 0	2 0	Roses (indoor), doz. ...	2 0	4 0
Geranium, scarlet, doz. bnchs.	4 0	5 0	" Red, doz. ...	1 0	2 0
Gladiolus, doz. spikes ...	1 6	2 6	" Safrano, doz ...	1 6	2 0
Lilium lancifolium album	1 6	2 6	" Tea, white, doz. ...	1 0	3 0
" rubrum	1 6	2 6	" Yellow, doz. (Perles)	1 0	2 6
" various ...	2 0	3 0	" English:—		
Maidenhair Fern, dozen			" La France, doz. ...	1 0	2 0
bunches ...	2 0	4 0	Smilax, bunch ...	2 0	4 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	to 24 0	Foliage plants, var., each	1 0	to 5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	" pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each	2 6	5 0
Azaleas, various, each ...	2 6	5 0	" pink, doz. ...	12 0	15 0
Boronias, doz. ...	20 0	24 0	" paniculata, each	1 0	3 6
Cannas, doz. ...	18 0	0 0	Lilium Harris, doz. ...	8 0	18 0
Orotans, doz. ...	18 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	8 0	12 0
Erica various, doz. ...	8 0	18 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
Ferns, var., doz. ...	4 0	18 0	Roses, per doz. ...	6 0	18 0
" small, 100 ...	4 0	8 0	Stocks, doz. ...	8 0	12 0
Ficus elastica, each	1 6	7 6			



The Wages Question Again.

THE report by Mr. Wilson Fox on wages and earnings of agricultural labourers has just been published. It is a very important one, embodying as it does the results of the special inquiries which he has been making on the subject over the whole of the United Kingdom. It not only shows the earnings of the servant, but at the same time we may see what the employer has to pay for his labour bill, and realise more fully the difficulty which besets him in the effort to keep the ball rolling.

No one will grudge the labourer his better rate of hire, for that there is great general improvement in this respect admits of no doubt, and as long as the money is not provided at the expense of ill-advised economies in other items of expenditure or out of capital it gives cause for congratulation, and is a distinct benefit to the nation. The rise in agricultural wages is not the result of special prosperity amongst farmers. No doubt farming prospects have improved a little during the last four or five years, but the revival is only from a very low standard, and amounts merely to this: that times are less depressed than they were; the balance is inclined to swing to the right side, but the impetus in that direction is not very marked, and hardly strong enough to overcome obstruction caused by labour difficulties. Wages have risen because men have been scarce. The competition of other and more thriving industries for the bone and sinew of the nation is responsible for the increase in the weekly pay-sheet of the farm, and there is little prospect, at any rate for a few years, of any alteration in this respect.

The chief and most important items in the report are the tables relating to the wages of ordinary day labourers or men not employed in attendance on live stock. The averages for 1898 for the four counties were England 16s. 10d. weekly, Wales 16s. 5d., Scotland 18s. 1d., Ireland 10s. 1d. Surely the latter item does not represent a full week's work. We imagine the smallness of the wage is affected by considerable periods of broken time, as the Irish labourer who comes to this country always wants a week's wage for a week's work. Whether the northern worker is stronger or more intelligent than his southern counterpart, or whether he is more naturally industrious or better capable of obtaining a good price for his services, at any rate the fact is that the farther we travel northward the higher is the scale of payment to labourers.

The highest wages are paid in Renfrew, where they show an average of 21s. 9d. per week, the counties of Lanark, Stirling, Dumbarton, Durham, and Northumberland following closely behind, and all averaging over 20s. As all these counties have extensive coal mines or manufactories within their borders high wages are not a matter for surprise, farmers in the immediate neighbourhood of large manufacturing or mining centres always having to pay a heavy price for labour. They should have fair compensation in having so many food consumers, and therefore a good retail market so near their own doors.

The lowest weekly earnings in England are 14s. 5d. per week average of the county of Suffolk. In Wales Cardigan is the lowest, 14s. 9d. In Scotland, Caithness, 14s., which is too far north for manufactures, and is not of much importance agriculturally. In the Irish county Mayo the average earnings are but 8s. 7d. per week, or about 1s. 5d. per day if the men work every day, but as there are few labourers pure and simple in the wilds of Mayo, but many small holders, these latter may work three or four days a week for wages and spend the other time on their own holdings.

Payments other than cash vary very much; they include free house, bacon, keep of a cow, potatoes and fuel, also free board during harvest or at other busy times. The value of these perquisites vary from 1s. 3d. per week to 3s. 2d. per week average per man. In individual cases with which we are acquainted the allowances would come to much more than this, bacon and house rent alone amounting to 5s. 6d. per week. Valuable and interesting information has been obtained from a large number of farms as to the rate of wages which have been paid for a great many years. The year 1850 has been taken as one to compare with present times, and we find an average increase of 48 per

cent. in wages of 1898 compared with those of 1850 on the same farms, but as farming and wages were much depressed in 1850 the 48 per cent. increase will require discounting a little.

In 1855, when prices had risen owing to the Crimean war, wages had risen too, being 25 per cent. above those of 1850, and the average increase since 1855 is only 22 per cent. We imagine farmers would be very willing to submit to this 22 per cent. tax if they could realise the prices for corn which in 1855 prevailed; 80 per cent. for Wheat and 50 per cent. for Barley would make the mare fairly gallop.

During the trade boom of the seventies wages rose very considerably, and in 1877 reached a point nearly as high as they reached in 1898. After the disastrous season of 1879 wages began to fall, and following closely on the depression in agriculture reached their lowest point in 1893 and 1894, when prices of Wheat and Barley were 22s. 10d. and 24s. 6d. per quarter respectively. To quote the report, "In 1894-95 wages in certain counties were lower than they had been since the sixties, but since 1895 an upward movement has been taking place, and this is attributed in a great measure to the scarcity of labour, which has been felt in many agricultural districts, owing to the competition of the manufacturing centres, the collieries, and the building trades. But in addition farmers have been in rather better circumstances during the last two or three years, owing to several favourable seasons in succession." We must object to the word *several* here, for the season of 1896, when thousands of farmers had their harvest practically destroyed by continuous rain during harvest, could hardly be called a favourable one. Other statistics show that wages showed a rise of 4d. per week in 1899 over 1898, and 8½d. per week further in 1900. This would be equivalent to another 7½ per cent.

Mr. Fox compares agricultural wages with those of other industries, and shows that the earnings per head of the farm labourers have increased more than have those of most other workers, mining being the exception; so if we compare them proportionately we shall find the increase per cent. greater still, as farm wages were so much lower than the others to start with.

It is evident that the old range of wages will not again be seen, for with the spread of knowledge men look further for employment, if such as they consider profitable is not near at hand, and only good wages will retain on the land labour worth retaining. Farmers will have to depend more and more on machinery, the men in charge being much more skilled and better qualified to act the part of mechanics, and they will have to be well paid accordingly.

Work on the Home Farm.

Cooler weather, with bright sunny days and strong breezes, have done much to rejoice the farmer's heart. The depression caused by the heavy rains, which began to remind him too much of 1896, has passed away and is forgotten. Many fields have been cleared; that which remains is now in fine condition, and the rumble of the waggons is continuous. The Barley which stood the rain in stock has benefited by the soaking. It has lost a little in colour, but it has gained considerably in quality. It has lost the steeliness which characterised so much of this year's Barley, and will no doubt malt much better. It will require at least two months in stack before being thrashed, so as to get well over the sweating process through which it is sure to pass.

Part thatching was done whilst waiting for the grain to dry. There is nothing pleasanter to look upon than a well-made and well-thatched stack, and such are great additions to rustic scenery, but pretty is that pretty does, and thatch must be put on to turn rain and resist wind. The first string above the eaves must be well pegged, the pegs must be sound as well as of good length, and they should be not more than 8 inches apart. For the rows shorter and much fewer pegs will do, for the lowest string has all the pressure to bear. For very exposed corners two or three strong pegs may be driven into the stack, pointing a little upwards, just under the eaves, and if a string be tied from each of them to a peg above in the first row it will be a big wind that will move them.

The cooler weather is grand for Potatoes, and may check the disease, which had put in a very threatening appearance. The black spot attacked the leaves, and was spreading very rapidly. Reports as to the efficacy of spraying vary much, and it is too early to give judgment, but in one or two cases where great pains have been taken to carry out the operation properly two and three times over not the slightest difference in the appearance of the haulm of the sprayed and unsprayed can be seen.

We see that inventors are turning their attention to the manufacture of a stooking machine. One which would gather up and load loose corn would be more useful. If we could cut the crops and let them lie in loose sheaf till thoroughly dry, then gather them up by machinery and convey them to the stack without manual labour, a great boon would be conferred on us. There are machines for loading loose hay. Why not load loose corn?

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Journal of Horticulture.

THURSDAY, SEPTEMBER 13, 1900.

A Chat About Pears.

It is a curious fact that in dealing with Pears, whether from the point of view of culture or of varieties, writers invariably associated with Apples, which are with equal regularity given the greater prominence. To a reasonable extent this practice may be permissible, and even at times essential, but Pears certainly warrant individual treatment now and again. Not that it is desired in so doing to place them on a level in general importance with Apples. Such they can never be, from the simple fact that the susceptibility of the blossoms to frost and other injuries renders them far more uncertain of giving an average crop than are Apples; while they have not the range of utility that can be claimed for the king of hardy fruits.

There can, however, be no disputing the fact that a constant supply of luscious dessert Pears extending from August through the autumn and winter would be a boon to many a gardener. His mind would be relieved of several moments of anxiety did he know that his fruit room contained such a stock, and that he could rely upon the same state of affairs year after year. We have not, unhappily, reached to such a state of Elysium as this—at least, the majority of gardeners have not, though some of the monarchs of the craft may have attained to what is regarded by the rank and file as the attainable.

It is not with winter Pears that the difficulty presents itself, of these the major portion of us have a comparatively good stock, but rather with the early and second early varieties. It must be understood that it is to first quality Pears reference is now being made. Of second-rate and inferior sorts there may be plenty, but these are not worthy the calculation of the gardener whose best efforts are always directed towards the placing of the choicest products of the garden upon his employer's table. The multiplication of varieties

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does not seem to afford a practical way out of the difficulty, as the number of really choice sorts is extremely limited. It might be possible to name a dozen and a half that have every right to stand in the front rank, but it would not be an easy matter, and most growers of experience would prefer to limit the choice to twelve.

Much may be done by adopting several modes of training and planting in the greatest possible variety of aspects both on walls and in the open. It is not every gardener, however, who is so fortunately situated as to have command of all aspects of wall space for Pears, or can give more than perhaps a couple of positions for his pyramids in the open. If one has everything in one's favour in the directions indicated a certain moiety of the difficulty is overcome at the outset, but even this will not insure one's presence within the charmed circle. True, a certain soil and district may so develop the flavour of a second-rater, that it will rank with the best, and thus complete the cycle, but this would not occur either in every garden or in every season.

Under my charge I have a considerable number of trees both on walls and in the open, as well as a Pear walk formed some six years ago with excellent cordons. The trees on walls include a few old stagers, which sentiment alone retains, as they never produce a crop of any value, though they occupy valuable space; some splendid horizontals, planted possibly a dozen years ago, but the date is uncertain, and some cordons. The two last-named forms of trees have given the most satisfactory results, but especially the latter, as one or two of the former are inferior in quality, and my predecessor, recognising this, avoided them in making a selection of cordons. Then there are the young and old trees in the open, but as they are in a very exposed position that is subject to late frosts they are not taken into account—sometimes they give of their abundance, but more often a glorious wealth of blossom is the sum total of their share towards stocking the fruit room. The Pear walk is in a much better position, and gives annual indications that it is going to be a success.

Having stated what type of trees are at service, and where they are growing, I now propose to enumerate the varieties employed. This I am able to do with two exceptions, these being respectively one early and one late variety, but neither is of any material use, as the flavour is poor. The earliest variety is Jargonelle, followed by Williams' Bon Chrétien, Madame Treyve, Souvenir du Congrès, Beurré d'Amanlis, Fertility, Beurré Superfin, Beurré Capiaumont, Louise Bonne de Jersey, Gansel's Bergamot, Marie Louise, Maréchal de Cour, Duchesse d'Angoulême, Doyenné du Comice, Durondeau, Pitmaston Duchess, Emile d'Heyst, Thompson's, Beurré Clairgeau, Beurré Baltet Père, Trout, Van Mons Leon Leclerc, Glou Morceau, Beurré d'Anjou, Knight's Monarch, L'Inconnue, Nec Plus Meuris, Josephine de Malines, Bergamot Esperen, Olivier des Serres, and Doyenné d'Alençon. Here, then, are thirty-one Pears differing in time of ripening, size, and quality.

The skilled Pear grower will find by dissection that the list comprises a dozen of the choicest varieties in cultivation, with the remainder of varying merit, though none is positively bad. Looking still more closely into the matter, it is observed that between Williams' Bon Chrétien and Beurré Superfin we have nothing of the finest quality. This is, as a matter of fact, the stone over which I stumble every year. My employers are satisfied with Williams' for a few days, but not more; they cannot be persuaded to acknowledge it as a first-rater at any time. Madame Treyve is in even poorer favour, while Beurré d'Amanlis is not tolerated.

From the end of October, through November and December they revel in a golden harvest, for Beurré Superfin, Marie Louise, Maréchal de Cour, Doyenné du Comice, Emile d'Heyst, Thompson's, and Beurré Baltet Père form a septet of Pears that can hardly be improved upon for superbness of flavour. Of these Emile d'Heyst occupies the position of honour, and is regarded by the family as the Pear *par excellence*. Several of these, of course, keep on into January, and even February; and the supply finishes with Beurré d'Anjou, Josephine de Malines, Bergamotte Esperen, and Doyenné d'Alençon; but the latter meets with scanty notice.

I am advised to substitute Winter Nelis for L'Inconnue, and shall

do so, as it is certainly superior. Of the remaining varieties several are noted as exhibition Pears pure and simple, and we grow them because of their handsome appearance. They are sent into the house, but it is very rare indeed to find one of them has been touched. I may say that all the fruit that goes to my employer's table is legibly named on neat cards which are placed prominently in the dishes, and the system finds much favour with the family, and also the guests, leading occasionally to quite interesting discussions as to the merits and demerits of the fruits represented. It will thus be seen that the only real trouble I have is to provide one or two first-class September Pears, though a similar addition to the very late ones would also be of material service.—R. ATKINS.

Storing Root Vegetables.

THERE can be no room for doubt that the importance of growing the finest possible vegetables of all kinds is now generally acknowledged. Where a few years ago these essentials to health were regarded as important by the few who grew them accordingly, we now find excellent crops in almost every garden we enter. I do not mean to say that everyone of us produces vegetables that are up to exhibition standard; nor is such necessary, or even wise, for it does not follow that because a particular specimen is up to show-board form that it is in quite the best condition for home use. This, after all, is the ideal most of us aim for, and when we have got it it behoves us to follow it up by the best methods of storing the valuable root crops. The time is fast approaching when the roots must be harvested and stored, and a few notes on the subject will not therefore prove untimely.

One of the primary things to be taken into consideration is the weather, which should be fine before the operation is commenced. The soil must not be in a sodden condition when a crop, such for example as Carrots, is taken out of it; neither are these crops in such an excellent state for keeping over protracted periods when very wet weather succeeds such as we have experienced of late. The roots then imbibe too much water for long keeping, and a more extended time of preparation is necessary before they can be finally packed away. Therefore if when the crops are ready the weather promise to change from dry to wet lift all Carrots, Beet, Potatoes, and Onions immediately. Parsnips are best left in the ground, portions being lifted according to requirements; while Salsafy, Scorzonera, and Jerusalem Artichokes will be better if allowed to remain for lifting later in the season.

All roots must be judiciously trimmed before storing. Cut the tops of Carrots and Beet at two different times; first, when taken up cut the tops half down, but after they have been under cover and become dry the tops of the Carrots should be cut close off, and those of the Beet to within 2 inches of the root. The points of the roots should on no account be touched, and particularly of the Beet, or they will inevitably be spoiled. If the tips of Carrots are cut they are very liable to decay. One frequently finds the roots are stored in any makeshift place which may be too damp, or is insufficiently protected from frost, or, given a proper place, the packing material is not at all suitable. All things considered, I think dry sand is the best material, but thoroughly dry fine soil also answers well. Whatever material is used the roots are laid up root and point alternately, and if in a cool but not too dry place they will remain plump right through the winter.

It is sometimes necessary in the winter to afford extra protection from frost by some kind of covering. This must be moved and replaced as the severity of the frost comes and goes. That is to say, if a sudden thaw succeed a frost the covering should be instantly removed, otherwise a sweat may be set up which is almost certain to lead to decay. Again, if the roots are packed in dry sand or fine mould, it should be in the house or under cover, and free from any contact with moisture. Onions, of course, may be stored in ropes, on floors, or on shelves, and provided they never become damp a little frost will do them no harm.—P. B.

**Habenaria Susannæ.**

THIS Orchid is so rarely seen that we cannot be surprised to learn that "A Journeyman" has not seen it in flower. It has occasionally been exhibited at the meetings of the Royal Horticultural Society, and on one of these was recommended by the Orchid Committee for a first-class certificate. At the time that this honour was awarded to it we wrote in the pages of the *Journal of Horticulture* as follows:—"This is a charming Orchid, but it is said to be somewhat difficult to grow, which may account for its scarcity in gardens. The flowers are, however, very beautiful, and were it possible to induce *Habenaria Susannæ* to grow and blossom freely it would be a decided acquisition. The engraving portrays the character of the flowers so well that a description of them is superfluous." We trust this information will meet the wants of our correspondent, and that he may soon enjoy the sight of one of these beautiful flowers.

Cattleya Eldorado.

The varieties of this Orchid are numerous, varying as they do from pure white to the darkest shades of colour, and are invaluable for ornamental purposes as well as for cutting during the autumn months. To grow the plants well they should be grown at the warmer end of a heated greenhouse, where a good supply of moisture can be maintained during the season of growth. They appear also to enjoy more water at their roots than the majority of *Cattleyas*. Where the plants have been grown warm they will have completed their growth and have commenced to show their flower sheaths. When they reach this stage remove them to the coolest and lightest end of the house, so that their pseudo-bulbs will become thoroughly ripened. The supply of moisture may be gradually diminished, but on no account should they be allowed to become so dry as to prematurely ripen them. Although this Orchid enjoys liberal supplies of water at its roots during the growing season, it cannot endure large quantities of wet unoccupied soil. Being only of moderate growth it does best when somewhat limited in its root space; in fact, succeeds admirably in a basket suspended from the roof, or on a good sized block with a little sphagnum.—SPECIALIST.

Oncidium flexuosum.

Though this species is thought little of nowadays there can be no two ideas as to its great utility for cutting or its beauty either on the plant or cut. It is so easy to cultivate that anyone with a small green-

house with a moist atmosphere and fairly well heated may grow it to perfection. I have always found it the best way to let the plant have its way, so to speak, and to flower, rest, or grow as it likes, not to force it to rest or grow at any given time. Several spikes are very often produced from the same bulb, and these being cut fairly high, break again into a number of small and pretty sprays, useful for buttonholes.

As distinct from *O. altissimum*, *O. sphacelatum*, and similar kinds, *O. flexuosum* has far more graceful panicles, and the stems being small and wiry, the flowers look very light and pretty. To do it well a fairly large pot is necessary, and a rough open compost. But small or weak bits must be carefully treated if they are to make good plants, small and shallow pans with very little compost being best for them.—H. R. R.

Oncidium Jonesianum.

Few Orchids are more beautiful suspended from the roof of a house. The lip, which is pure white, is very conspicuous with the richly spotted

sepals and petals behind. The freedom with which it flowers and the length of time that the flowers last should commend it in this respect to all, however limited the collection may be. It is only right, however, to point out that few Orchids are more seriously injured than this by flowering early and the flowers remaining on the plants until they fade. Imported plants very often flower profusely, even before they have established themselves. It is a mistake to allow them to do so, or even allow them to retain their flowers long after the first season's growth. Plants that are allowed to flower from the first gradually dwindle and eventually die. They will be found



FIG. 63.—HABENARIA SUSANNÆ.

to do best on blocks of wood that are moderately rough outside, so that they are capable of holding moisture for a greater length of time. A little sphagnum on the block is also useful for this purpose. It thrives far better in the *Odontoglossum* house than in the structure devoted to *Cattleyas*.

Cattleya Gaskelliana.

This favourite species also is now in full beauty, and it is very valuable on account of its flowering after *C. Mossiæ* is over. There are some splendid types in cultivation, many of them coming near to *C. gigas* in size, and very richly coloured. If the plants are removed to a cooler and drier atmosphere while in bloom it will serve the double purpose of ripening the bulbs and conserving the flowers over a longer period than would be the case if they remained in the house where grown.

Disa lacera.

This has repeatedly been described as the "blue *Disa*," and generally excites some interest. The flowers are small, of a bluish purple hue, and are produced on a slender scape without leaves. Alone it is not a very conspicuous plant, but associated with others the flowers have a good appearance, owing to their distinct colour, though this is by no means the brilliant blue some might be led to expect from glowing descriptions given in past times of the blue *Disas* at the Cape. It has, no doubt, been carefully determined, but several reliable authors mention *D. lacera* as having white or whitish flowers.—ORCHIDIST.

A Note on an Original Show.

I WAS one of a set of judges who were called upon on September 1st to adjudicate upon the garden produce at an exhibition which is, in my experience, so unique and original in its object and character, and withal so good a show in a gardening sense, that I thought I would call your attention and the attention of your readers to it. It is called the Old Aspley and District Charity Flower Show, and is held in a large tent in a field at Bobbers Mill, a country district almost within the boundaries of the city of Nottingham, but just outside, and is one of the many busy centres of allotment gardens which so distinguish Nottingham over any other midland town. These allotment gardens are all, or nearly all, cultivated by the working classes, with an admixture of tradesmen. They are chiefly colliers, or machinists, or lace hands, or railway men.

The promoters and supporters of the show are the local gentry and tradesmen, backed up by the municipal representatives of some portion of the town. The object of the show is to assist the various medical charities of Nottingham and neighbourhood, and all the subscriptions, gate money, and other sources of income, are, after paying working expenses, divided in proportion to their claims and needs amongst those benevolent and philanthropic agencies. Last year, for instance, over £46 was so divided, beginning with the Dispensary twenty-six guineas, General Hospital five, Nursing Association five, Children's Hospital three, Convalescent Homes three, Throat and Ear Hospital one, Eye Infirmary one, and Blind Institution one.

There is no prize list made out on the sending out of the schedule, and no money is offered as prizes in the first instance; but so many are the friends of the society, that before the time of the show one first, and in some classes a second prize is given—not in money, but in kind; and some of the prizes thus given are such as to raise a smile. For instance, a fat lamb was given for a collection of early flowering Chrysanthemums, sprays and blooms, and the lamb was on the spot, to be received by the successful exhibitor as soon as the awards were made; as also was a big pig for five kitchen Apples (Lord Suffields excluded), and there was no doubt as to the pig being in evidence, as the crate in which it was placed was a conspicuous object in the tent, and the peculiar pig perfumery was in evidence also, as the noses of those who came near it testified. A collection of vegetables were curiously rewarded, the first prize being an automatic piano stool, and the second a cask of ale. Indeed, something was found for a first prize, and occasionally a second for all the seventy-five classes in the schedule, from the fat lamb, big pig, automatic piano stool, cask of ale aforesaid, down to a pound of tea and a tobacco pipe; indeed, the prize list is so much of a curiosity that I enclose one for the Editor's inspection.

The produce set up on the tables on the show day was of a high order of excellence, the land of the district being of a strong holding loam gives off healthy stuff, both of fruit, flowers, and vegetables. It is such produce as makes it a pleasure to judge, and the competition is so keen that it puts the judges on their mettle to decide the respective merits of the different exhibits, and do justice between exhibit and exhibit; and so anxious are the exhibitors as to the merits of each one's productions and the criteria of judgment, that the judges are occasionally cornered and catechised as to the why and wherefore of such and such a decision. But sound and true is the gardening spirit amongst the men, and they readily recognise the rightfulness of the decisions, and lay up the lesson thus gained for use at the next show. Indeed, the enthusiasm amongst the growers and exhibitors is so great that, despite the absence of a financial prize list in the schedule, the entries are many, and the competition in all the three departments of fruit, flowers, and vegetables keen. The show is looked forward to eagerly by the whole population of the district, old and young, and the bands of music make things very gala like, and provide the young people with their much loved dancing in the evening, besides the juvenile sports for both girls and boys.

It will be noticed that in the class for five kitchen Apples Lord Suffields are excluded, and the reason for this is in this wise; the first two exhibitions were so glutted in the kitchen Apple class by the very numerous and excellent dishes of Lord Suffields that the judges were bothered. The dishes were all so good that they could not be passed over, and yet it did not seem right that this variety should monopolise all the three prizes; they, therefore, advised the committee to make a class for Lord Suffields alone, and this is now done, which reduces the difficulty of differentiating the respective merits of these and other kitchen Apples.

To a true gardener the evidence of this gardening spirit amongst the people is most inspiring, and the gentlemen's gardeners of the neighbourhood are all willing to assist it in every way they can.

There may be an idea in the conduct of this original show which probably will be of use to some readers of the Journal, and that is the chief reason why I send this note.—N. H. P.

Cactus Dahlias.

JUDGING by the product of the class for Cactus Dahlias grown in pots, as seen at the Crystal Palace last week, it is very evident that creating such a class was an error of judgment. Nine plants in 10-inch pots, with some six expanded flowers over the whole, did not constitute a very attractive feature. No doubt Pompon varieties would have given much better results; but surely it is not worth while to encourage the growth of Dahlias in pots when they do so much better in the open ground, and there are thousands of other plants that will give really fine effects in pots. Doubtless the National Dahlia Society will not insert such a class again in succeeding schedules.

Cactus Dahlias set up in vases with any foliage should and do make a pleasing class. There was, however, in the judging of the large class for twelve vases a serious wrong done to the competitor who had much the best flowers, but whose setting up was not over-elaborate, as the schedule expressly stipulated that "quality of bloom should have the first consideration." I should not have found any fault with the awards had not quality been thus prominently indicated. Without doubt the setting up of Mr. Seales' vases was the most attractive, but still with so much of rather heavy foliage somewhat overdone. But the consideration of quality in the flowers should certainly be in future omitted, as the object in such competition is to show how far Cactus Dahlias can be displayed in vases effectively for domestic decoration. It should, however, be a condition that the varieties of flowers used be of those named in the society's schedule, as that would exclude coarse flowers. On the other hand, judges ought not to give too much weight to foliage dressing. More than one competitor thought that a too liberal use of foliage might disqualify, and certainly was right in concluding that as the class is for Dahlia flowers these should have all possible prominence. I should advise, to give more effect to the class, that nine blooms be required for each vase, and also that each competitor have 9 feet run of staging, so that his vases may be more effectively displayed in two lines only, and not be made to look flat and formal in three rows.

It was specially noticeable that in the three best stands of eighteen varieties of Cactus blooms, the chief competition in these flowers, that out of fifty-four bunches nearly one-half of the whole were seedlings, that are not, and cannot be in commerce for some time, and when they are will be offered at prohibitive prices. I strongly protest against this practice, as the public, unknowing that fact, take notes of these new ones, and apply for them, expecting to find them catalogued at reasonable prices, just as so many others are. Of course they are in the end apt to think that they have been deceived. For that the society is as much responsible as are the competitors, and it shows how much the raiser element dominates the committee. Let there be a class for six bunches of distinct varieties not in commerce by all means, and even one of three bunches, also for small raisers, but from all other classes, seedlings, by which is meant varieties not in commerce, should be rigidly excluded. The public would then not be in any way deceived.

The society gives in its schedule a list of no less than fifty-six varieties, which it regards as the best in commerce, and surely from that large number it would be easy to set up a first-class stand of eighteen bunches. It would seem, judging by the relatively few out of the fifty-six varieties referred to seen in the various stands, that the life of a Cactus Dahlia is a very short one. Cannot that fact be impressed on the committee when it has seedlings before it? Card-board seems to be so abundant that nothing will satisfy less than a wholesale distribution of it. The strong man on the committee who will set up a standard of excellence and fight for it, seems sadly wanting. And yet that work should be greatly helped now, thanks to Mr. Burrell, who has given us this year in J. W. Wilkinson, without question the finest Cactus Dahlia ever seen. That it was the very best new variety, so far as true Cactus form is concerned in the show, there could be no doubt, and with such a standard for guide, surely no flower should henceforth receive an award that does not come up to that standard of quality.

In another direction in Mr. Burrell's singularly superb Rosine was seen a stem such as held the flower stiff and erect—almost an ideal stem. Here again is a standard to aim for in stems. Some of the flowers had stems that in their curious convolutions resembled the gyrations of runner Bean tops, presenting quite ridiculous aspects; yet whilst the committee require that seedling flowers shall be shown in vases unwired, that their habit may be seen, no one seemed to be the least concerned because stems were so weak and ungainly. Clearly the perfect Cactus is yet a long way off.—A. DEAN.

Early Root-pruning Fruit Trees.

THE usual time for general root-pruning over-luxuriant fruit trees with a view to inducing them to form fruit spurs and make less useless wood growth is just about when the leaves are falling, and from thence onwards through the winter. This period, according to all orthodox practice, is a suitable time, and good results will, if the work is carried out properly, eventually, if not immediately, follow. Root-pruning is a process capable of giving a sudden and effective check to the rapid and strong growth of a tree, hence some judgment is required not to carry out the work severely at any one time, and it is possible to do this by carelessly severing the strong roots all round the tree at the same time. It has been the practice for many years of some growers to root-prune in September when the leaves are on the trees. The work has been carried out earlier, and with good results following. The greatest possible care, however, has been exercised, first, not to operate on more than one-half of the roots at the same time, not to cut them in too closely, and to carry out the work expeditiously. All these are points of double importance when the operation of root-pruning is effected at an early date.

Root-pruning is only practised on trees restricted in size, shape, and formally trained. By subjecting trees to restriction, growth is constantly being checked, and if the roots have a free run the shortening and checking of the wood only serves to induce stronger growth. To counteract this to some extent Pear trees are worked on Quince stocks and Apples on Paradise stocks, both these having a tendency to form fibrous roots near the surface, while Pear and Crab stocks descend deeply, hence the latter are not suitable for restricted trees unless constant lifting and root-pruning is resorted to. Trees, however, grown on dwarfing stocks are found sometimes to extend their roots beyond a suitable area, and the result is seen in overgrown branches and fruitless wood. The best way to avoid a serious amount of root-pruning is to lift and replant trees and bushes of portable size before they have a chance of growing beyond government. The next best method is to prevent roots extending beyond a certain circle. This slight check given periodically would render further root-pruning unnecessary. Trees, however, which have been long established forming roots which extend strongly in a lateral direction and almost certainly perpendicularly, are likely to be fruitless. Strong growth is made from the spurs, the latter suffering because the buds are deprived of support.

Although it is not desirable to carry out all the root-pruning thus early, it is advisable to experiment on a few trees. Cut a trench half way round the tree 3 feet from trunk. If a large tree the trench must be at a wider distance. The strong roots met with in descending should be cut off, and eventually have their ends pared and left smooth. The small roots met with ought to be preserved and not destroyed. When the trench has been dug to the depth of 2 feet, undermine the ball of roots and cut off a portion of those descending perpendicularly. It is important to reach these roots, as their strength and length is the cause of the sappy unfruitful growth. They descend into uncongenial subsoil. Before leaving them pare smoothly, and pack good soil about them. When the work is done, during a dry period the smaller roots should be kept covered with some moist material until fresh compost can be worked about them. Having cut and shortened the strong roots, the next process is that of filling in fresh compost about them. This may be good fibrous loam, mixed with the staple soil taken out of trench. If the whole is intermixed with wood ashes this will improve it. Place it in the trench and make it firm. The small or fibrous roots retained ought to be laid carefully in it as the filling in proceeds. A thorough watering should be given the whole as soon as finished, including the space between the trunk and the trench. It will also

be advisable to place a light mulching of manure over the roots. Previous to root-pruning shorten the long strong shoots on the trees, and thin out any crowded branches.

In the management of young trees a milder form of root-pruning should be adopted, carrying this out just before the leaves fall. If fairly well supplied with fibrous roots the trees may be lifted and replanted at once, the root-pruning simply consisting of shortening back any strong shoots which may be extending beyond their neighbours. Young Apples, Pears, Plums, Cherries, Peaches, Nectarines, and Apricots may be treated thus if they have not been planted more than two years. It might be risky to do this with older trees, as they will have a stronger root system, not being so well furnished with fibres. It is, however, advisable to check this tendency, and induce a freer formation of fibrous roots, these alone giving a fruitful character and inducing an evenly balanced growth. Endeavours ought to be made to avoid some of the causes which induce or encourage a fruitless character. The absence of summer pruning is a primary cause of strong wood growth. It is promoted by hard cutting back in winter. This continued for several years acts upon the roots, causing them to extend. The more they do so, and the more cutting back done in winter, the stronger and less fruitful will be the trees.

Rich soil and too much moisture and stimulants applied to young trees prove detrimental in the long run by promoting gross growth. Dryness in the surface soil, and the consequent absence of support and food for the roots, causes them to descend deeper, which, of course, promotes a strong and sappy growth. Annual mulching in summer to prevent moisture evaporating rectifies this to some extent. Train all the forms of trees without crowding from the first. Endeavour to promote an evenly balanced growth of branches, and encourage healthy root action in the surface soil. These points will insure fruitful trees.—E. D. S.

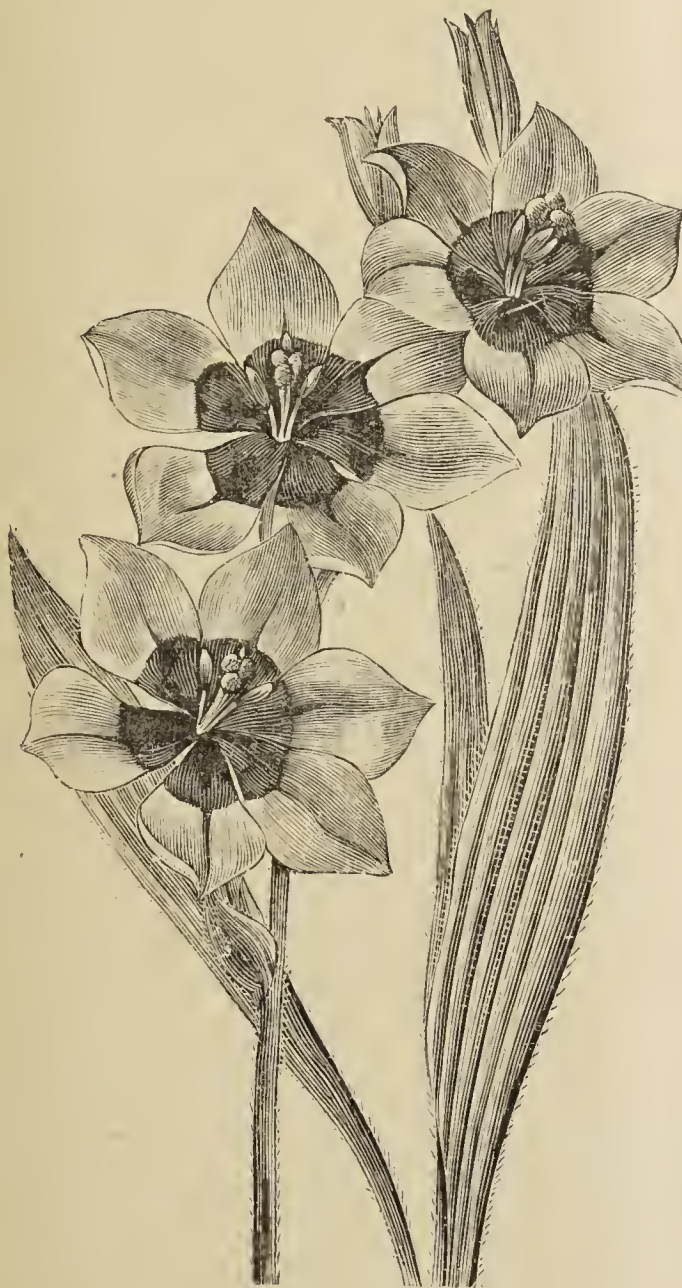


FIG. 64.—BABIANA RUBRO-CYANEA.

A Note on Babianas.

PERHAPS Babianas can hardly be included amongst neglected plants, for few gardeners are unacquainted with at least one or two of their varieties; and in some establishments where cool-house plants receive a portion of the attention they so well merit they rank amongst the most esteemed favourites, together with the Ixias, Watsonias, Sparaxis, and other of similar habits.

One very great point in their favour is the readiness with which they flower and their few cultural requirements—such, indeed, that any amateur can grow them

even though he does not possess that general plant repository in small gardens, a greenhouse. This, however, applies chiefly to those who reside in the favoured south or sheltered districts within a hundred miles north of the metropolis; for though even farther north than that the plants may under very favourable circumstances be grown satisfactorily outside, house culture is much to be preferred where practicable. They will not withstand uninjured a temperature much below freezing point, and in all situations their chief enemy is excessive moisture in the soil, either from want of adequate drainage in the borders, the position being low, or the soil heavy and retentive of moisture.

B. rubro-cyanea is very handsome. It is of moderate height, usually 6 to 8 inches, with broad plaited leaves, downy on the under surface; the flowers 2 inches or more in diameter, with ovate divisions, the upper half of a most brilliant blue, and the lower part rich crimson, forming a central zone in striking contrast to the outermost ring. The form of the flowers is well shown in the woodcut (fig. 64). This species usually flowers in May or June, but occasionally as late as July.—F.



Looking Back.

The National Rose Society's Exhibition, Crystal Palace, July 7th.

I do not think that anyone anticipated that this grand annual tournament would equal those of its predecessors, and I think that there are very few rosarians but have to confess that their anticipations with regard to it were amply fulfilled, and this simply owing to the untoward character of the weather. The same cause which affected the Salisbury Show affected this also; not only was the season late, but the cold weather at the end of May caused great deterioration in the blooms.

Of those points that particularly struck me, the first of these was the success of the Irish growers. Three of these were gainers of prizes; chief among them was the well-known firm of Alexander Dickson & Sons of Newtownards, who for the first time carried to Ireland the champion trophy; no doubt many of their Roses came from their Newbury grounds in Herefordshire, but a large number were brought over direct from Ireland. My old friend Mr. Hugh Dickson, whom I used to meet so often in bygone days at the West of Scotland Rose Show at Helensburgh, carried off the first prize for forty-eights, while Mr. Bewley, an amateur from Rathmines, near Dublin, not only secured two medals, one for the best Hybrid Tea (Mrs. W. J. Grant), the other for the best Tea or Noisette (Muriel Grahame), but also the first prize for six blooms of any one Rose other than Tea or Noisette with Caroline Testout, and the second prize for nine blooms Tea or Noisette, and it must be remembered that Mr. Bewley is a small grower, not growing more than 500 plants. It is evident, then, that English rosarians, both professional and amateur, will have to take count of their Irish brethren in future contests.

Another point which struck me was the increase in the practice of dressing Roses. This has two results—it increases the size of the flower, thus giving the exhibitor an unfair advantage over his rivals, while in some instances the whole character of the flower is altered by the petals being turned back. I think surely there is no flower which deserves more to be let alone than the Rose. Another point which struck me, and to which I have already alluded, was the pluck exhibited by some of our smaller growers, Mr. Conway Jones for example, who has been gradually creeping up from being a very small grower until he has successfully competed in some of the larger classes, and at Birmingham ventured to exhibit in the Jubilee class desirous of obtaining the trophy, and says, like the child with Pears' soap, "he won't be happy till he gets it." In the same spirit Mr. Burnside ventured to exhibit for the Tea trophy, although he had against him that most formidable competitor, Mr. Alex. Hill Gray, and very nearly carried it off. Such examples as these are always an encouragement to small growers, and show them that it is not always the big battalions who succeed in overwhelming their opponents.

Another point was the continued interest that seems to be taken in garden Roses. The character of the season was favourable to this class, and many amateurs would like to exhibit in it, but with only small gardens it is very difficult at present to do so. Nothing can be more beautiful, for instance, than the single, or nearly single, Roses that we have, such as Paul's Carmine Pillar, Macrantha, Paul's Single White, Bardou Job, Janet's Pride, Paul's Royal Scarlet, and Polyantha Simplex, but these all are of rampant growth, and judging from my own experience we have quite enough of this class, and therefore one hails with pleasure the advent of those single Roses of dwarfer growth and continuous blooming character.

I have already alluded to some of the medal Roses, but it may be as well to state that no gold medal was awarded for any seedling Rose, while the silver medals were awarded as follows. In the amateurs' section Mr. G. W. Cook had the best H.P. in Ulrich Brunner; Mr. Cook, too, is a small grower. Mr. Bewley of Rathmines, near Dublin, the best Hybrid Tea in Mrs. W. J. Grant, and also the best Tea or Noisette in Muriel Grahame. Thus all the three medals were taken by amateurs who must be ranked among the small growers. In the nurserymen's section the medals were awarded as follows. For the best H.P. Messrs. Alex. Dickson & Sons were successful with Susanne Marie Rodocanachi; Mr. W. Tayler had the best Hybrid Tea in Mildred Grant, and Mr. George Prince the best Tea in Bridesmaid.

Another feature of the exhibition was, I think, the loyal manner in which it was supported by the members of the N.R.S. and the cordial and kindly feeling which existed amongst them. Never have I seen a larger number of our members; there were nearly 100

exhibitors, and most of our principal rosarians were there. Our president was with us, and he too, like myself, had watched with interest the onward progress of the society. My co-secretary, Mr. Mawley, was busy as usual, and kindly took upon himself some of the work which used to devolve on me. Our new treasurer, Mr. C. B. Haywood, was there, and the Woodhatch Roses occupied a good position, and I hope we may see him permanently seated in the chair so long occupied by his father. These rosarians of various degrees, and hailing from twenty-five counties, met one another in friendly rivalry, and showed that kindly appreciation of one another which I venture to think is hardly equalled by any other of our societies. True it is that we miss some who used to be present with us, and on the lips of many there was no name more frequently mentioned than Ben Cant. It was pleasant, too, to see new faces and to hear of new names amongst the exhibitors; and so, as in all other things, some come and some go, and one can only hope and believe that the same kindly feeling which has existed for so many years will continue, and thus assure the prosperity and progress of our much valued society, and so farewell to the Metropolitan Exhibition of 1900, and let us look forward hopefully to the first exhibition of the twentieth century.—D., Deal.

[We think our esteemed coadjutor is in error respecting the medal blooms. The premier Tea or Noisette in the amateurs' section was Muriel Grahame, shown by Mr. E. B. Lindsell, and the premier Hybrid Tea in the professional section was Mildred Grant, shown by Messrs. A. Dickson & Sons.]

Ammoniacal or Gas Liquor as a Manure.

IN hope that someone with more recent experience would have responded to the inquiry of a correspondent who would "be interested to learn if gas water is still used to any extent at the present time," I have deferred giving details of my experience with it a decade ago.

In the first place I have to record the fact that neither farmers nor gardeners make much, if any, use of gas water in the neighbourhood of a public gasworks, which may be due to the bulky nature of the article, and the much handier form its most valuable properties can be obtained in—namely, sulphate of ammonia, which salt is prepared in large quantities from the ammoniacal liquors of gasworks. Another reason of the disusage of gas liquor may be that of the volatile nature of the ammonia contained in the gas water, and its liberation as gaseous ammonia, much of which escapes into the atmosphere and is lost, the soil of the district being silicicalcarious on a chalk with flints formation. It was, however, on this that my experience with gas liquor refers, the soil being in some places argillo-calcarious, the gas liquor being produced on the place, and cost, as the saying is, nothing but the labour.

It may be useful before proceeding further to note that ammoniacal or gas liquor is, according to chemists' investigations, an impure solution of carbonate and acetate of ammonia, together with minute quantities of ammonia, in combination with sulphur and cyanogen. Suffice to remark that ammonia carbonate and acetate are amongst the most fatal substances to such pests as cockchafer and rosechafer grubs and wireworm, slugs, snake millipedes, woodlice, root and bud mites, and earthworms and eelworms. Of sulphur and cyanogen, only another form of prussic acid, it may be said that the first ranks highest as a fungicide, and second foremost as an animal poison, embracing the part animal part vegetable clubbing organisms. I do not know how the acetate or vinegar acts on malignant bacteria, but it certainly does not prejudice the nitrifying micro-organisms.

The other side of the question is very, but not more, important, for health in crops is the first wealth. There is the carbonate of ammonia, a powerful fertiliser, volatile in part, but "fixed" in great measure by the soil, and what goes into the atmosphere comes back again in rain, and consequently so does good to someone. Atmospheric ammonia may not be believed to greatly influence the growth of vegetation, but gardeners know better, for plants readily absorb atmospheric ammonia by their leaves, and substances that evolve it are utilised in glass structures to promote a vigorous and healthy growth. Besides, where does grass and vegetation generally appear greener than in the environs of gasworks? The acetate, we may assume, passes into nitrate of ammonia in the soil by the action of the nitrifying micro-organisms; and what is a more powerful stimulant of vigorous growth of foliage and root development? Then there is the sulphate—ammonia combined with sulphur, one of the most concentrated (though the quantity is only minute in gas liquor) forms in which ammonia can be applied to crops, being a most active and directly available plant

food. It stimulates root and leaf growth, and enables plants to collect in the shortest time other essential food elements from the soil.

The great factor in gas liquor is the ammonia. This varies in amount, hence needs care in its use; a safe rule is to always dilute the liquor with five times its bulk of water before applying to the roots, especially when it must be over the tops of growing crops. It is valuable manure for cereals, grasses, Potatoes and Turnips, and root crops generally. In gardens it may be used for fruit trees and vegetables, also for flowers in beds and borders, or even pots outdoors. Its use under glass is almost precluded by smell and the danger of scorching arising from the ammonia to foliage. The effluvium of gas liquor is in some cases a fatal objection to its use in gardens.

Grass Land.

For grass land gas liquor answers well, the distribution being effected by a water-cart with spreader. It may be applied at almost any time of year, but best in the late winter or early spring months on either pasture or meadow land. At this season the gas liquor need only be diluted with two or three times its bulk of water, as the ground being wet it will be considerably diluted in the soil, and though it may slightly brown the herbage it will not prejudice the vitality of the plants. On a paddock that had become mossy and the grass not liked by either horses or cattle it had a very decided effect, the same amount of diluted gas liquor being applied as in watering streets. I did not keep an account of how many tons of diluted liquor were applied per acre, but it took a man and horse a week to dress the seven acres, the water for diluting being near by, and the gas liquor tank about half a mile distant. It was depastured by milch cows from the end of April, and they eat off the grass quite close, and the cowman said the cows gave more milk than they had ever done before when grazing the same field. The grass and other herbage was a deep green colour, and grew very close. So much did the cows like it and thrive upon it that ground was getting bare in June and it was decided to turn them on meadow as soon as the aftermath had grown sufficiently.

The hay crop being secured early in June, hay-making all done before midsummer, and the gas liquor tank being full, some of the meadow land was well watered with gas liquor diluted with five times its bulk of water. The man and horse were at work a fortnight and got over about fourteen acres. The dressing appeared to have done harm, for though more highly diluted the liquor was either stronger or had more effect on the herbage, the great patch in the forty acres of grass land being conspicuous by its brownness, while the rest was growing, though pale green. Anon the dressed portion changed from brown to deep green, and grew in herbage twice as much and thick as the other portion of the meadow land—portion of a park. The cows found it out, leaving all the other alone for this, and being aided by other cattle, eat it off so close that it appeared as newly mown. The herbage, however, came again, deep green as before, and abided so until frost came, when it got nipped, especially the Clover in it, clearly indicating that one effect of the gas liquor was to render the herbage more succulent and tender.

These records of experience are not advanced as the best, but may serve some useful purpose suggestively, there being no excuse for allowing so valuable a manure as gas liquor to run to waste. The consideration arises, Does it pay? In our case it did, for the simple reason that otherwise the man and horse would have been idle, or doing nothing in the sense of bringing forth an increase of product. When the gas liquor must be bought and conveyed a considerable distance and water is not convenient for dilution, there is no question but that sulphate of ammonia would be the cheaper, if not better, article. Even in the use of gas liquor where it costs nothing and can be applied readily and without special outlay, I should not rely upon it alone for grass land, but use basic slag in the autumn, 10 cwt. per acre, and follow with best quality kainit, 5 cwt. per acre. Then in February drench the land with gas liquor, and again, if meadow land, as soon after the hay crop was off as possible.—G. ABBEY.

(To be continued.)

The Small Ermine Moths.

THE genus *Hyponomeuta* contains a number of species, most of which so closely resemble each other in appearance and in mode of life as to be difficult to distinguish. They are all small moths (*Microlepidoptera*), measuring $\frac{3}{4}$ to 1 inch from tip to tip of the wings. The general colour of the fore wings is white or grey, sparsely traversed on the upper surface by irregular rows of small black spots, hence the name "Ermine Moths." The thorax, or portion of the body from which the wings spring, is usually also supplied with similar marks. The hind wings are provided with a long fringe, and they, as well as the lower surface of the fore wings, are brownish. The caterpillar is about three-quarters of an inch in length, of a greyish or yellowish colour, plentifully supplied with black or dark brown spots, and possesses sixteen feet. It tapers markedly both before and behind. When disturbed it lowers itself to the ground by a silken thread (fig. 65).

The commonest species are:—*H. padella*, L. (*H. variabilis*, Zell.), with a wing stretch of about four-fifths of an inch. The upper surface of the fore wings is bluish or greyish white, traversed longitudinally by three irregular rows of black spots (about thirty in all), the hind wings being greyish brown. The caterpillar has a dark head, and a body covered by wart-like tubercles from which hairs spring. This species is met with on Plum, Apple, Hawthorn, Sloe, Mountain Ash, &c.

H. evonymella, L. (*H. padi*, Zell.), measures nearly an inch across the wings. The upper surface of the fore wings is lustrous-white in colour, and shows five rows of black spots (over forty in all). In appearance the caterpillar closely resembles the former. This species generally feeds on Bird Cherry, and is the species most usually met with in the north of England.

The "Small Ermine" that frequents Apple trees is generally regarded as a distinct species (*H. mallinella*, Zell.), but, in any case, it so closely resembles *H. padella* as to be practically indistinguishable.

Life History.

The ermine moths that damage British trees have all a similar life history. From about the middle of July till the middle of August, for the most part they are on the wing, at which time they lay their eggs in clusters on the buds and shoots of the trees already indicated. In the course of the autumn, or in the following spring, the eggs hatch and produce caterpillars, which in the month of May spin a veil-like web, under which they live gregariously in detached colonies. At this time the caterpillars feed voraciously, so

that destruction of the foliage of the food-plant proceeds rapidly. As the creatures increase in size and find it necessary to secure more food, they spread their webs over a larger and larger portion of the tree or bush on which they live, until, in many cases, but little of the plant may remain uncovered.

When full grown the caterpillar spins for itself a tough greyish cocoon about the size and shape of a large grain of oats, and in this protective covering it pupates. This change takes place for the most part in July, the chrysalid-cocoons being situated within the common web. A fortnight later the appearance of the moth completes the life history.

Preventive and Remedial Measures.

If the colonies of caterpillars are within easy reach they may be destroyed by crushing by hand, the use of a glove making the process less disagreeable. If the webs are too high to be treated in this way, the branches that they envelop may be cut off and burned, or the "nests" may be burned in their original position, ignition being effected by a torch on the end of a pole. If water under high pressure from a hose can be applied the colonies may be effectively destroyed.

Various solutions may be applied by means of a syringe or spraying machine. Of these one of the best is prepared by dissolving 7 lbs. of soft soap in 7 gallons of boiling water. To this, while still hot, half a gallon of paraffin or petroleum oil is added, with vigorous stirring, the whole being diluted with soft water to 25 gallons before use. Solutions of tobacco juice and quassia are also useful.

Whatever measure is employed it should be put in force as soon as the webs are observed. If too long delayed the caterpillars will have spread themselves over a wider surface, and most of the damage will already have been done.—("Board of Agriculture Leaflet.")



FIG. 65.—HYPONOMEUTA PADELLA, L.

Moth, twice natural size; larvæ and web about natural size.

Plums.

THE Plum crop has this year been an unprecedentedly heavy one, all varieties, from the luscious Green Gage to the giant Pond's Seedling, seem to have vied with each other in the attempt to beat previous records. The result is that the markets are glutted, and good produce is sold at very low rates. The consumer is rejoicing at the bounteous supply, and the wonderful bargains to be obtained. Fruit, as it should, has of late entered largely into the dietary of the nation, and vast supplies of jam have been stored for future times of scarceness. Let us, however, look at the other side of the picture. The fruit growers have certainly not been too well favoured, notwithstanding the enormous crops, for after incurring the expenses of production, gathering, and despatching to market, they have actually in some instances not received a penny in return. Surely such men need the sympathy of the nation, and let us hope that the reward will come next season, when the supply and demand will in all probability be more proportionate to each other. Plum culture must certainly still be carried on with energy, for it is rare indeed for the crop to be so heavy and unprofitable. Good times will follow in the wake of bad ones.

We have recently been treated to plenty of information about Plums in both the horticultural and daily papers, but little has been said about the trees and their management; I purpose, therefore, to advance a few remarks upon that phase of the subject. Some varieties of Plums are most accommodating in regard to soil, and thrive equally well on heavy and light ones, provided the latter are not too sandy, but many of the choicer varieties, such as Gages, Orleans, and Coe's Golden Drop, have a decided preference for a calcareous loam resting on limestone. Such soils are warm, yet retain moisture and food supplied thoroughly well, and as the roots cannot descend deeply the strong growths so liable to gumming are not produced. An open sunny situation on sloping ground should, if possible, be selected as a site for planting, as in low damp situations the blossoms are extremely liable to injury by frosts, and a cold soil is at all times inimical to the welfare of the trees. The hillsides with gradual slopes, which abound in Kent and Worcestershire, may be considered ideal situations for Plum growing. When forming orchards in grass the standard tree is, I think, the most suitable form. If these have clean stems of 6 feet Gooseberries and Currants can be planted underneath, and from 18 to 24 feet is a suitable distance to plant the Plums. The soil should be bastard trenched, but except in the case of poor soils no manure need be added, as it is an easy matter to feed liberally when the trees begin to fruit, and a mulching of manure placed round the trees after planting encourages surface rooting, and assists them in times of drought.

Among dessert varieties the following are excellent for orchards or plantations:—Decaisne, very prolific, and ripens early in September. Early Prolific is still one of the best to produce heavy crops, and although in point of flavour it cannot compare with others which ripen later, it should nevertheless be included in every collection. Hulings' Superb, Golden Esperen, and Angelina Burdett are a trio which ripen in late August or early September; the latter variety is of particularly fine flavour, and should be largely grown when high flavour is the first consideration. Royale Hâtive and Perdrigon Violet Hâtive are also excellent varieties to plant for August fruiting, and both are of good flavour. July Gage, though only a moderate grower, succeeds well as a standard in warm localities, and in point of flavour is everything to be desired. The markets seldom seem to be overstocked with late Plums, a point which intending planters should note and act upon. There is also room for a greater number of good varieties which ripen about the end of September, and I suspect that raisers are already turning their attention to the matter. In the south I have seen Guthrie's Late Gage succeed well as a standard during favourable seasons, but I fear that this year it will not be a success where not given the protection of a wall. I know of no better variety for ripening towards the end of September, when grown as a standard, than Jefferson, and it is not in the least particular in regard to soil. Autumn Compôte, though not generally classed as a dessert sort, is of very agreeable flavour, and is certainly worthy of being placed on the dessert table when other varieties are scarce.

The following dozen dessert varieties for walls I think include all the best for the purpose:—Coe's Golden Drop, Green Gage, Denniston's Superb, Guthrie's Late Green, Ickworth Impératrice, July Gage, Jefferson, Lawson's Golden, Kirke's, Purple Gage, Reine Claude de Bavay, and Transparent Gage. For covering a wall quickly diagonal cordons planted 18 inches are the best, and with only a limited amount of space at command a selection of varieties to supply fruit over a long period can be made. When grown in this form, however, the trees ought to be lifted every three or four years to prevent them from growing too strongly, and to induce fruitfulness. Horizontal cordons are often planted against walls, but to my mind

fan-shaped trees are preferable for Plums, because, however well they may be managed, after a few years a few branches will occasionally die, and when fan training is practised the blanks are more easily filled up than when horizontal cordons are grown. Fifteen feet apart is a suitable distance to plant the trees against high walls, but in the case of low ones 20 feet is not too much. When preparing for planting holes 5 feet across should be made, and if the soil be deep and rich a 9-inch layer of broken bricks and old mortar ought to be placed in the bottom. I hope to treat of culinary sorts in a subsequent note.—H. D.

Marketing Fruit and Vegetables.

THERE has been a slight improvement of recent years in the way English grown fruit is put on the market, but even now it is sad to see the way that choice Apples and others are placed before the public. Not the least care is taken to prevent bruising such delicate skinned varieties as Keswick Codlin, Lord Sniffeld, and others when they are being gathered; they are simply thrown into baskets, shot from one to another, and then sent to the market or second rate fruiterers, for no good business man would have them on his premises.

The baskets are often filthy, and no trouble is taken either to clean them or to place anything between the fruit and their sides. Yet all that is needed to treble the value of the fruit is a clean basket with a little tissue paper inside it. Very old advice this, but seldom acted upon. I was in Bristol market one evening, recently, when a large lorry was driven up piled with Vegetable Marrows. The porters at once began to throw them into deep crates, smashing some, and bruising all, and these must have been a sorry looking stock when offered for sale the next morning.

Had the crates been taken to the garden and filled carefully the work of transport would have been far easier, and the Marrows would not have been injured, even if they had stayed for a day or two. These may seem to some extreme cases, but they are very common, in spite of all that has been said and written on the subject. The men who do this class of thing are usually they who lament the slackness of trade and low prices. But who can wonder at either?—H. R. R.

Turnip Disease.

MAY I be allowed to call attention to a disease in Turnips, especially Swedes, which has been calamitous to farmers in several localities in England and Scotland? The disease shows itself by the destruction of the inner and younger leaves of the crown, the death of the older leaves (the stalks of which are often injured by the borings of an insect, the attack of a tree fungus, or the same agent which destroys the bulb), and the development of lateral buds from the axils of older leaves. The Turnip or bulb is attacked below the crown of young leaves, and its substance changed into a putrid pulp, which in the end fills its whole interior. Sometimes the pulp is found to be dried up, leaving an empty cavity, and the progress of the disease is arrested. Though this malady has been known to me for a few years, it is only within the last two or three weeks that I have been able to determine with certainty that the disease is due to bacteria. These gain access to the bulb between the bases of the young leaves of the crown, and then live on and consume the bulb, just as similar bacteria live on and consume the lungs of human beings. It is known that sunlight kills certain bacteria, and it appears to me that the arrest of the disease in some of the attacked Turnips is due to the destruction of the leaves, exposing the bacteria to the direct influence of the sun, and so causing their death.

A few days ago I visited several fields in the valley of the Nidd, in Yorkshire, where the disease has been severe. A 25-acre field which I examined had but one Turnip in five free from disease. The yellow Turnip appears not to suffer as much as the Swede, though several in the headlands were seriously injured. In another field Cabbages growing beside the Swedes were also attacked. But, on the other hand, a plot of Kohl Rabi in the worst field I saw was quite free from disease. There is no reason to fear any injury to Mangolds from these bacteria. Nothing can be done to save the bulbs already attacked, but something should certainly be done to prevent a repetition of the epidemic next year. The myriads of bacteria should be destroyed. This would effectually be done by building the diseased Turnips into a heap in layers, placing between each layer a plentiful supply of quicklime, and covering the whole over with earth. When the Turnip is too far gone to be pulled it should be dug out. This heap after remaining for two years would, mixed with earth, make a good top-dressing for pasture land. I hope in an early number of the Royal Agricultural Society's Journal to give a fuller description, with illustrations of this Turnip disease.—WILLIAM CARRUTHERS, Consulting Botanist Royal Agricultural Society (in "Morning Post").

NOTES & NOTICES

Recent Weather in London.—The weather in the metropolis during the past few days has been most pleasant, for the sun has shone brightly every day. A very slight shower fell on Sunday, but it was not sufficient to lay the dust.

The Victoria Medallist of Honour.—We learn that the vacant place in the list of Victoria medallists has been accorded by the council of the Royal Horticultural Society to the Rev. G. H. Engleheart of Andover, the celebrated hybridist of Narcissi. It is said that the place, left vacant by the lamentable death of Mr. John Laing, has been offered to the Rev. W. Wilks, the society's most excellent secretary.

Functions of Horticultural Societies.—At a meeting of the Acclimatisation Society of Queensland, held at Brisbane in July, Mr. James Mitchell, manager of the society's gardens, read a paper on the above subject. He stated that most of the societies are content with issuing prize schedules and holding large shows, losing sight of some of the principal objects for which they are intended. Queensland vegetation should stimulate a desire for horticulture in every man, woman and child in the colony, for in no other Australian colony are the resources of a horticulturist greater. The press is also open, and through it intercommunication between all lovers and workers in gardening might be spread in all districts. The essayist thought it quite time that Queensland should be one of the leading centres in horticulture. It has districts where the fruits and flowers of Britain grow to perfection, while in others tropical and sub-tropical plants thrive. Notwithstanding these advantages, not one of the many societies within the colony had taken up the work of certificating and looking after the proper naming of new varieties of fruits and flowers that are raised here. Mr. Mitchell suggested the formation of a society in Brisbane for this purpose, having affiliated branches in all districts of the colony, each branch to work independently for the furtherance of horticulture in its own district by holding periodical meetings for the interchange of information bearing on all subjects, and at the end of each year the papers might be collected and published. Five or six committees would be required for the naming of new varieties and awarding certificates, the members of which should be of undoubted authority of the subjects committed to their care.

Rural Life and Education.—In the course of a leading article on the present conditions of rural life and the effect of village education, the "Times" has some pertinent and interesting remarks. It is pointed out that in the facilities for travel and for change of residence; the lack of adequate cottage accommodation in many rural districts; the comparative dullness of the country; and the attractions of bustling life, crowded streets, and cheap amusements—these are causes, inseparable from the changed conditions of modern life, which affect the problem much more directly than does the village school. Education, no doubt, is indirectly responsible for what old-fashioned people regard as modern restlessness. The labourer, like everybody else, can read. His mental horizon is widened. Ideas are put into his head which his grandfather would have been incapable of taking in, much less of putting into practice. He no longer feels bound to the soil; he understands that there are better openings elsewhere, and that he can go to seek them. The railway or police service, or even unskilled labour in the towns, offers better wages to start with, and better prospects of rising than work upon the farm. Off he goes, and who can blame him? Too often he finds that higher wages are more than counterbalanced by greater expenses, and that all is not gold that glitters in the "flourishing town." The ranks of the "submerged tenth" are swollen by many a failure of natural ambition to rise, and by the wreck of lives that had been happier in uneventful sameness, "far from the madding crowd." But to blame education for all this, or to think that it can be seriously checked by artificial means, is equally futile. The utmost that the educational reformer can attempt with any prospect of success is to see that the education given in country schools is such as will give no distaste for country life, and will be suitable for those who follow agricultural pursuits. The village school cannot prevent young men from going; it may perhaps suggest inducements to remain.

Poisoned by Laburnum Seeds.—About 600 Bradford children, on a country holiday, wandered into a plantation and ate the seed pods from Laburnum trees. Afterwards twenty suffered from narcotic poisoning, and were removed to Bradford Infirmary. Emetics were administered, and most of the sufferers recovered. Two of the cases were, however, so serious that the sufferers were detained.

In the Markets.—The vast influx of home and foreign fruit to Covent Garden continues unabated. On Monday in the foreign market California, Italy, Spain, Portugal, and France were most generously represented. Californian Pears, of four or five excellent varieties, and Golden Drop Plums sold slowly at very low prices. Fine Spanish Melons were hardly offered for; Lisbon Grapes, both white and black, went for a trifle; and French Pears of the choicest varieties were sold with difficulty at very moderate rates. In the English market the glut was even greater. Capital English Damsons are now plentiful, and selling freely at 1½d. to 2d. a lb. retail. English Tomatoes of good size and flavour may be had at 4d. a lb., and a large quantity of inferior foreign Tomatoes at half the price.

The Lady Gardeners of Kew.—The innovation of employing female gardeners at Kew appears to have landed the authorities in an amusing difficulty. Sir Trevor Lawrence, distributing prizes on Saturday at Kingston, said that when three ladies were engaged at Kew Gardens the first difficulty that arose was as to the costume they should wear. They were asked what dress they preferred, and the bloomer costume was suggested, but the result was not satisfactory. The walls of Kew Gardens were not very high, and people used to get on the tops of omnibuses to see the young ladies at work. The director of the gardens said that would not do, and told the young ladies that they must wear a dress similar to that of the ordinary gardeners. They accordingly, Sir Trevor added, appeared "in suitable costume."

Irrigation and Fruit Farming in Australia.—Should future results realise the anticipations formed by those who have carefully studied the question, it is possible that the vast expanse of treeless, waterless country at present given up to sheep, and which is a source of heavy loss to pastoralists during prolonged periods of drought, may become studded with richly fertile spots, each an oasis in the wilderness, and assisting in changing the whole face of the country. The primary idea was to encourage the cultivation of drying fruits, such as Apricots and Raisins, but a couple of years were lost in experimenting with Californian methods of irrigation, which proved futile, the periodical flooding of the land causing it to cake down to the subsoil. The system of soil aëration now adopted has proved successful in every respect, and where, only a few years ago, there was nothing but dry, burnt-up country, may now be found beautiful gardens filled with the choicest flowers growing in luxuriant profusion, and orchards stocked with healthy trees giving the rich promise of future abundant crops. But there have been varying results on the irrigation farms. Several have been successful, and others only partially so. This, however, has been occasioned largely by the character of the tenants. Those possessing real agricultural experience, and willing to turn it to the best account, having found irrigation farming a remunerative enterprise.

The Parks of Greater New York.—Greater New York has nearly 7000 acres of parks. Of the many scattered reservations of varying area which are included in this total, Pelham Bay Park contains 1756 acres, Van Cortlandt Park 1132 acres, and Bronx Park 662 acres. These are all located in the recently annexed Borough of the Bronx. In Bronx Park, in a space reserved for the New York Zoological Society, is a splendid collection of animals on exhibition, and in another section are the grounds and just completed greenhouses of the New York Botanical Garden. In Van Cortlandt Park are fine links, which are patronised by the golf enthusiasts of the city. Pelham Park has a water frontage of seven miles on Long Island Sound and Pelham Bay. Best known of New York's pleasure grounds is Central Park. It contains 862 acres—thirty years ago a waste of swamps, ledges and rubbish heaps, now a paradise of beautiful drives, lakes and forests, a world-famous triumph of the landscape gardener's art. Prospect Park in the Borough of Brooklyn has an area of 526 acres, and is accounted one of the finest examples of landscape gardening in America. Riverside Park extends a distance of three miles along a high bluff overlooking the beautiful Hudson River. Scattered throughout the city are great numbers of smaller parks and squares, and more are contemplated, especially in the overcrowded sections of the city.

Change of Address.—We are advised of the recent removal of the well-known landscape gardener, Mr. Wm. Goldring, whose address in the future will be 28, Kew Gardens Road, Kew, Surrey. Mr. Goldring's registered telegraphic address is Goldring, St. Cyr, Kew.

The Royal Horticultural Society.—The secession of Mr. Arthur W. Sutton and the death of Mr. T. B. Haywood left two vacancies on the council of the Royal Horticultural Society. These, we are informed, have been filled by Mr. George Bunyard, V.M.H., and the Earl of Ilchester.

An American Educational Scheme.—The City of Brooklyn has established a museum which can olaim the distinction of being exlusively a children's museum. It is close to Bedford Park, and may be found in the large and beautiful building of the Brooklyn Institute of Arts and Sciences. The museum proper occupies six-rooms on the ground floor, which are known as the model room, animal room, plant room, anatomical room, meteorological room, and lecture room. Probably the most interesting to children, and where they invariably linger for some time, is the botanical and flower room. In addition to innumerable attractive charts it contains some forty-two largo flower models, which can all be dissected. For instance there is a beautiful model of a Lily. It can be dissected to the minutest detail. There are also very fine specimens of dissectible Roses, Poppies, Buttercups, and other well-known flowers.

Gardening in Indian Schools.—In previous issues, says "Indian Gardening," we have advocated the teaching of gardening in Indian schools as a means of developing in the pupils a taste for natural studies and the habit of observation, while at the same time providing healthy and elevating occupation. We are glad to note that a beginning has been made in the Calcutta Martinière College for boys, and we hope to hear that the example set by the energetic principal, Mr. W. H. Arden Wood (himself a keen amateur gardener), will be followed by every college and school of any pretension all over the country. Mr. Wood has adopted the simple expedient of offering a prize for the best kept garden, and has let the boys know that they can come to him for any help they may require. The effect of this has been wonderful. The boys are very keen on gardening, and are competing with each other with the enthusiasm born of a new idea. If some of our local public gardens and nurserymen would send Mr. Wood a supply of any common plants easily grown they would be helping forward the movement considerably, for in our schools will be developed the future gardeners and botanists of the country, and these boys will be the future constituents of the nurserymen and seedsmen of India.

Acocks Green and District Horticultural Society: Annual Outing.—The third annual outing of the above society took place on Monday, September 3rd, when a party of about fifty journeyed to Chelsea to inspect Messrs. Veitch's exotio nurseries. Starting from the Green in a saloon at 7.35 A.M., Paddington was reached at 11.15. The party were met by Mr. John Heal (a representative of the firm), and were conveyed by brakes to the nurseries at King's Road, Chelsea. The outdoor department of the nurseries having been inspected, the party were met by Mr. James Veitch, who gave the trippers a hearty welcome, and invited them to lunch. This was served in one of the large seed warehouses, Mr. S. Issett (president) presiding. After the meal, the chairman proposed a hearty vote of thanks to Messrs. Veitch for the kind manner in which they had received and entertained the party. It had been a real feast, and he was sure had been thoroughly enjoyed by all who had had the privilege of being present. Brakes were requisitioned again, and the party were driven to Coombe Wood Nurseries. On reaching these they were met by Mr. George Harrow (manager), who devoted every attention to the visitors, and explained to them the process of grafting and propagating in vogue at the nurseries. He was untiring, pointing out and expatiating on all the more important of the shrubs and other things of interest in the 35-acre nursery. After refreshments had been partaken of, the party returned to the brakes, and, accompanied by Messrs. Heal and Harrow, proceeded to Earls Court, which was reached at six o'clock. After an excellent tea, the trippers gave themselves up to enjoyment. The exhibition, side shows, water-shoot, and big wheel were freely patronised, and there was not a man who failed to enjoy hims-lf. Before departing a hearty vote of thanks was accorded Messrs. Heal and Harrow for the way in which they had ooducted the excursionists. Earls court was left at 11, in time to oatch the 12.30 train from Paddington, which landed them at Acocks Green at about five o'clock in the morning.

Ragley Hall Gardens.—In order to benefit the Gardeners' Roya Benevolent Institution and the Royal Gardeners' Orphan. Fund, R. Oliverson, Esq., gave permission for the gardens and grounds of Ragley Hall, Alcester, to be thrown open to the public. The gardens were looking bright and attractive, but nnfortunately the weather did not prove very favourable. The sum of £3 5s. was collected in the boxes for the charities named.

Brockwell Park.—Mr. Albert Larking, hon. secretary of the Brockwell Park extension scheme, writes to point out that a sum of between £2000 and £3000 is needed before the London County Council will take over the 43 acres of land which it is proposed to purchase as an addition to the park. The committee, which was formed last August, with Mr. C. E. Tritton, M.P., as chairman, has signed the contract for the purchase, but donations to the amount indicated are still required.

Currants and Peronospora.—Owing to the ravages of the Peronospora blight almost the entire crop has fallen on evil days, and with such disastrous results indeed as to cause an eminent City firm to say in their market report, just issued, that the mishap " threatens a national disaster to Greece." The average total crop yield iu normal times is 144,000 tons yearly. This quantity, and more, was again promised in the early part of this year, bnt during the month of May, when the Vines had reached their zenith and attained maturity in the blossom, the blight set in, turning the fruit black and rotting it, and causing it to wither and fall from the branches. The Grecian Govern- ment organised a Commission to inquire into the extent of the damage done, and from the report, which has just been presented, there are only about 30,000 tons of Currants available. In 1853 there was a similar crisis in the Currant branch of the dried fruit market, and then the wholesale price of the commodity was 120s. a cwt., and people paid 1s. 6d. and even 2s. per lb.

August Weather at Dowlais.—Rainfall, 6.40 inches, which fell on sixteen days; greatest falls, 1.37 inoh on the 21st, and 1 inch on the 2nd; for the corresponding period last year 2.25 inches, which fell on seven days. Temperatures: mean maximum, 63.74°; highest reading, 79° on the 14th. Mean minimum, 45.79°; lowest reading, 40°, on the 10th; highest reading in the sun, 107°, on the 14th. There were five sunless days. The prevailing direction of the wind was S.W. and S.E. A very wet cold month on the whole, with very nasty winds, which did a great amount of damage to growing crops.—WM. MABBOTT.

August Weather at Belvoir Castle, Grantham.—The wind was in a northerly direction seventeen days. The total rainfall was 3.73 inches, this fell on eighteen days, and is 1.07 inches above the average for the month. The greatest daily fall was 0.70 inch on the 23rd. Barometer (corrected and reduced): highest reading, 30.403 inches on the 13th and 14th, at 9 A.M.; lowest, 29.074 inches on the 6th, at 9 P.M. Thermometer: highest in the shade, 77° on the 13th and 14th; lowest, 44° on the 26th. Mean of daily maxima, 60.61°; mean of daily minima, 51.54°. Mean temperature of the month, 59.07°; lowest on the grass, 42° on the 5th and 26th; highest in the sun 130° on the 2nd. Mean temperature of the earth at 3 feet, 60.19°. Total sunshine, 163 hours 45 minutes. There was one sunless day.—W. H. DIVERS.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.		Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1800.			At 9 A.M		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
September.			Dry Bulb.	Wet Bulb.	Highest	Lowest.					
Sunday..	2	W.S.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday..	3	E.N.E.	56.6	54.5	67.2	51.2	—	60.9	60.9	59.3	45.3
Tuesday	4	N.N.W.	56.6	54.5	61.5	47.2	—	59.2	60.5	59.3	40.3
Wednesday	5	N.N.W.	52.0	49.5	64.8	39.8	—	57.5	60.0	59.2	33.5
Thursday	6	N.N.W.	56.8	53.2	68.2	41.5	—	57.5	59.5	59.0	34.7
Friday ..	7	W.N.W.	53.5	51.8	71.9	39.3	—	57.8	59.5	58.9	31.0
Saturday	8	N.N.W.	58.9	53.9	73.8	41.8	—	58.2	59.5	58.8	34.3
			60.4	56.5	68.5	49.5	—	59.8	59.5	58.3	42.2
MEANS ..			56.4	53.4	68.0	44.3	Total	58.7	59.5	59.0	37.3

A week of bright weather with cold misty mornings. On the 6th inst. the grass thermometer registered 1° of frost.



Potatoes at Chiswick.

THE awards of the committees of the Royal Horticultural Society certainly call for comment. In the published regulations I read that the objects of the committees are:—(1) "To encourage the production of new and improved varieties of fruit, flowers, and vegetables by examining and reporting upon the merits of such as may be submitted to them for the purpose." (2) "To collect and disseminate trustworthy information," &c.

A few weeks ago the Fruit and Vegetable Committee had before them a collection of Potatoes, and gave an award of merit to Beauty of Hebron. This Potato has been in general cultivation over twenty years; it is popular, and all will admit a most useful variety. Even more recently the same committee honoured the variety Puritan with a similar award. If I mistake not, this variety has already been certificated more than once by the R.H.S., of course under other names.

But turning to the reports of the trials of Potatoes at Chiswick, I find that in 1896 the committee say of Beauty of Hebron—"A well known variety; crop excellent; free from disease." In 1897 it is reported on as "the soil at Chiswick does not suit this variety, it being weak in growth, and the crop light;" but now, three seasons later, it receives an award of merit. But what about the regulations? The variety cannot be called "new" or "improved," and the information which it is intended the committee should disseminate will be of little importance or utility, and instead of it being a matter of the R.H.S. guiding the public, it is the latter that are guiding the R.H.S.

As to Puritan. Some five and twenty years ago I paid a great deal of attention to Potatoes, and somewhat about this time Beauty of Hebron was introduced from America. I made a selection from it, which produced tubers with a white skin, and named it and sent it out as Queen of the Earlies. Three years later Puritan was introduced, which proved to be identical with Queen of the Earlies; and later on we had Duke of Albany, Early White Beauty, and White Beauty of Hebron. After repeated trials these all proved to be one and the same thing. But what I wish to get at is this: In 1884, sixteen years ago, I sent to Chiswick some of my Queen of the Earlies for trial. The following season I wrote to the superintendent for information respecting the trial, and was told that "the variety was no improvement on existing kinds." Some three seasons later I again sent the same variety and Puritan, but never inquired as to the result. Now, only after a trial of sixteen years are the merits of this popular variety discovered; and in the case of Beauty of Hebron, twenty years at least are required. With such results as this, is it to be wondered at that certificates and awards of merit have little or no weight with practical growers? —W. J. GODFREY, *Exmouth*.

School Boys as Professional Gardeners.

JUDGING from an account in the "Times" of the 4th inst. of the education of boys in practical gardening at Boscombe, the "men" gardeners of the district have what may, perhaps, be described as a "new terror" to reckon with in their competitions. A few years ago the inauguration of "lady gardeners" had a disturbing influence on some masculine minds of the craft, but this in a short time subsided; and now up springs another little bogey—the creation of some wonderful committees of local horticultural societies.

The teaching of practical gardening on plots of ground at Boscombe to boys in the higher standards at the school appears excellent, as conducted by a professional gardener (not a "boy"), and the head master of the school finds that this outdoor afternoon teaching at stated intervals does not interfere with the progress of education in the school. The scheme is based on information that was derived from the continuation school work of the Surrey County Council, established in 1892. It is a combination of this plan (in which only youths who have ceased school attendance can participate), and taking advantage of the Elementary Education Act, which enables boys in schools to be taught gardening by their teachers on adjacent plots of ground.

In some instances where these school teachers enjoy gardening, and have learned a good deal about it, this elementary school garden work is highly commendable; but in others, where the supervision is not practical, the "teaching" is very much of a farce—a mere dancing about and playing with tools, government grants being based on "attendances" alone. This is a very unsatisfactory policy. Perhaps, recognising this, Mr. T. G. Rooper, school inspector for Southampton, seems to have kindly found the means for having the work conducted on continuation school lines, and carried out in a thoroughly useful manner.

According to the "Times" narrative it has been very successful,

and certainly the boys have been honoured in a remarkable way. It is represented that they were for the first two or three years allowed to compete as amateurs at local shows. Whether they defeated the adults or not, and thus deprived them of prizes, is not stated; but it is announced in all seriousness that the committees of the shows withdrew such permission on the ground that as these elementary school boys were "taught on their plots by a professional gardener" they themselves "ranked as professional gardeners."

This is a ruling without a precedent, and it would be a pity were it to go unrecorded. It does not appear to have occurred to these committees, that by the same reasoning the lads must rank as professional schoolmasters. The simple course adopted by many other show committees, of providing boys with a class to themselves for exhibiting their garden produce, might have been deemed derogatory to the dignity of these Boscombe precocities, and hence their elevation to "professional gardeners" by discriminating authorities. Mr. Rooper will appreciate the compliment paid to his diligent pupils.—A READER.

Perpetual Strawberries.

I SHOULD be very pleased if Mr. H. R. Richards would come and see my rows of St. Joseph Strawberries. Not only have I not yet (September 7th) missed a day in picking a dish of ripe fruit, but now that the early selected runners are coming into bearing I have a greater show of flowers and fruit than at any time since June. I can quite imagine they would be a failure if all runners were not suppressed regularly after the first few to each plant have been selected. This seems considerable labour, but I do not find it so when once the plants are in bearing, as I do it when I gather the fruit; every runner is pinched off at the same time, as I go up each row. Of course they would soon be all the better for more heat, as suggested by "W. S., *Wills*," but I quite expect to continue gathering till well into October. —W. R. RAILLEM.

Peaches and Nectarines in the Open.

I HAVE noticed in the Journal and other papers reports of Peaches and Nectarines fruiting in the open this season. In our own nurseries at Lowdham, in the Trent valley, but on land some 100 feet above the river level, we have had quite a crop of these. Alexander and Waterloo Peaches were gathered a fortnight since, and Early Rivers Nectarines are nearly ready; Pitmaston Seedling has a heavy crop, there are some nice fruits of Early Grosse Mignonne finely coloured, and even Sea Eagle has plenty of fruit, though I do not think they will ripen. This will show that it is not only in the sunny south that Peaches and Nectarines will ripen in the open without the aid of a wall; but, alas! "one swallow does not make a summer," and I strongly counsel amateurs not to pin their faith upon this somewhat rare occurrence becoming a general rule. Like your correspondent "An Old Fruit Grower" I attribute the fruitfulness of these trees to the unusually well-ripened state of the wood last autumn, and I think this is borne out by the fact, that although the trees which were grown in the open last season have here and there an odd fruit, some trees alongside which were grown and trained in pots under glass last year, and which were planted out in April, are in some instances roped with fruit.

We are most of us aware that the bloom of Peaches, Nectarines, and Apricots is not nearly as tender as is often supposed, and one has frequently seen Apricots on walls with the blossoms filled with snow, and subsequently carrying a good crop; but I do not think that in any except the very warmest and most sheltered spots we can depend upon these fruits being sufficiently well ripened in the autumn to enable them to carry a crop the succeeding summer. I remember on two occasions seeing grand crops of fine Peaches on standard trees in the late Mr. R. D. Blackmore's garden, but I do not fancy even with him they were as a rule fruitful, and I feel sure that in the Midlands it would be a waste of time and energy to attempt their cultivation.

May I, in conclusion, say how fully I endorse your correspondent's remarks about the failure of wall fruits? Most of the ordinary run of county gentlemen's gardens have about half the labour employed that would be necessary to keep them in order; the croquet lawn must be kept in order, and the ornamental grounds which the ladies frequent must also have attention; the cook demands vegetables, and gets them, or there is trouble, but when one walks round the kitchen garden and looks at the wall trees—well, the less said about them the better. I know men who strive and struggle from four o'clock on a summer's morning to seven or eight o'clock at night; they could not really be paid for the work they do, and as a matter of fact they are not; they do not complain, because they love their work, and they most of them know that the times are out of joint with their employers, also that when things are so the garden is generally the first department to feel the strain. They are content to struggle on and do their best, but they do think it hard when their diminished staff is called upon to wait at table and assist in the hayfield, and then, like the Hebrews of old, they are called to account for the tale of bricks, for under such circumstances how can their fruit trees be pinched, freed from insect pests, or even supplied with water? I regret to say that in many gardens these attentions are frequently lacking.—A. H. PEARSON.



Odd Notes.

To have good blooms of Japanese varieties the buds as showing now must be retained. The best time of the day to remove the growths is early in the morning, when the dew is on the leaves and shoots, rendering the growth more brittle and easier to take off than it is in the middle of the day, when the leaves are dry and the shoots soft, as they are with the sun shining. There is a danger at that time of injury to the flower buds.

The best way to proceed is to hold the stem near the top securely in the left hand, and with the right give the lateral shoots which spring from just below the bud a sharp bend in a downward direction, when they easily snap off. If a suspicion exists that the bud has been damaged one growth should be allowed to remain near the point of the branch for a few days, as the bud, if at all disfigured, cannot possibly develop into a perfect bloom. If it is thought best to remove the bud and allow the shoot to grow it will produce a bloom even if a small one. By the removal of all lateral growths at each node which burst out during the temporary check given to the plant by the formation of a flower bud the whole energy of the plant is concentrated to the flower bud at the point of each branch. Three blooms to each plant is the orthodox number allowed. Much better it is to have this number of good quality than to attempt more and have them small. When the exhibition table is reached this will be found to be good advice.

The branches as they extend should be securely tied to their supports. Neglect of this detail at this season is often attended with serious results, such as the breaking of the shoots just below the buds, which are at that particular point very soft, and in most varieties they are liable to bend; added to this the weight of water lodging among the leaves during showery weather often causes the points to snap off. Birds seem to be very fond of alighting on these points, which if at all bent by their own weight are almost sure then to break. The shoots grow so fast at this stage that almost daily attention is necessary to keep the ligatures in proper order. If the stakes are rough through the bark being upon them or knotty the ties do not slip up as growth proceeds, consequently the shoots buckle and in time snap off. This often happens with the good or scarce varieties.

Until the buds are freely swelling it will not be wise to give the plants much aid beyond a little soot water for keeping the foliage of a good colour. After the buds are freely swelling stimulants may be given, varying the kind as often as circumstances will allow. Liquid manure made from sheep or cow manure is efficacious. The soakage from the manure heap, too, is good. The various kinds of artificial manures recommended are no doubt all good if the directions accompanying each are faithfully carried out, but where such is not the case it is useless to blame the manures.

Bush plants of single, Pompon, and Anemone Pompon varieties grown for the use of the conservatory to flower in mass will need strict attention now for keeping their foliage in good condition, this very much enhancing their appearance as decorative plants. It often happens that these plants are grown in small pots for the sake of convenience as to space. Capital objects may be had in 7-inch and 8-inch pots if the necessary attention be given to the plants. The principal part to be considered is timely attention in applying water to the roots. Alternate applications of liquid manure may be given to the plants now. If larger blooms be wished for, only the buds now forming at the points of the branches should be retained, removing the others. A few points on each plant will suffice to secure larger blooms of these sections, while the remaining branches may be allowed to flower profusely.—FELIX.

Feeding.

IN the culture of the popular autumn flower, and especially that system followed for the production of large exhibition blooms, there is one phase to which attention cannot be too often drawn, that is feeding with stimulants. It is so frequently overdone, and many, a great many, failures are due to a too free hand in this direction. The desire to obtain gigantic growth, and sometimes a wish to hasten the same, make growers of perhaps short experience fall into this mistake. Yet a fair number of what may be termed "old hands" are constantly getting into the same trap. This is seen annually if one takes the trouble to inspect a number of collections. Chrysanthemums this season have had weather most favourable to their growth, but the elements have been too moist and cloudy for the proper ripening of the wood. The plants will have another month outside, and it will be well to do everything one can to assist a firm and hardened

state. Give each plant more room if possible, rather than feed with stimulants, and let the night dews do the rest in the way of swelling the flower buds.

It would hardly be wise not to feed the plants at all, because by this time the soil in the pots should be exhausted of its nutriment, but I would encourage surface roots by top-dressing with the ordinary compost rather than poison what roots there are with manures; more especially those known as "artificial." I have seldom noted any danger from the use of liquid forms, such as that of the farmyard or from soot. The only mistake one may make is in using it too strong or not sufficiently clear, in which case the sediment cakes on the surface and prevents the soil from being porous.

A grower of Roses of some note attempted Chrysanthemum culture in pots, and heavily surfaced the latter with cow manure just as collected from the meadow. The result was not encouraging. "Look," he said "I feed them well and water them constantly, but the leaves will not put on a healthy appearance." Another cultivator used as a top dressing ordinary sifted earth with just a sprinkling of bonemeal. This was placed on the surface of the soil every fortnight through August and September until it had risen above the rim of each pot. The pots were enlarged by pegging turf around, which in itself was splendid material for the roots to cling to. That grower was noted the following autumn in the accounts of shows found in horticultural journals.

One other acquaintance a season ago produced plants that were the talk of his locality. In this instance the run to nitrate of soda was unlimited. A few doses of extra strength, given to produce the "finishing touch to the blooms," really did the thing properly, and a neighbouring gardener who depended solely upon what he could gather from the fields to help his favourite plants came off with honours at the local show. Dozens of illustrations might be forthcoming from the writer's knowledge during the past twenty years to prove that over-feeding in Chrysanthemum growing has done not a little to moderate the joy of many an otherwise good cultivator. Weak and often is a golden rule in the case of applying manures in a liquid form; and in respect to some highly concentrated and well puffed manure in a dry state, if a tablespoonful is recommended to be strewn over the surface of the soil of a plant in a 9-inch pot I would advise that only half that quantity be used at a time for the sake of safety. It is too late to alter things when the damage is done and the tender rootlets are killed.

Then, again, Chrysanthemums are not all alike in their roots. Those of white-flowering varieties are more tender than are the yellows, for example; and the big, thick-petalled incurving forms like Oceana or Australie will bear more manuring than the delicate petalled Vivian Morel. Incurved or Chinese Chrysanthemums need a less generous treatment than the Japanese sorts generally. These two classes may be said to monopolise the thoughts of growers for exhibition, although the pretty Pommies, Anemone-flowered or single Chrysanthemums require similar skill and patience to produce them at their best.—SPECIALIST.

Housing the Plants.

THE most propitious time will soon be with us for placing the stock of Chrysanthemums under cover, and it is one of the most critical periods in the life of the plants. Of course, one cannot give any definite date for the work to be done, as it is governed by the weather, over which we have no control. Care is necessary in staging or standing Chrysanthemums; they must not be too close, or we shall hear of leaves damping, mildew increasing, and a variety of ills which need not occur if thought is exercised at the time. I know many people, especially amateurs, who are obliged to place their plants as thickly as possible, or they would not get them under glass. It is at this juncture that many plants get spoiled. As soon as they are housed they appear to stand still for a few days. During this period it is not advisable to use any stimulants; rather wait a few more days, and as soon as you see the buds moving again commence gradually to help them once more. If there is no danger of the frost getting through the glass, keep them without fire heat, in fact move them as slowly as possible, for when hurried we get weak stalks and thin florets, as well as pale colours. Air should be left on the top ventilators day and night.

If mildew put in an appearance use the sulphur box; nothing is simpler or more effectual. Keep all the dead leaves picked off, for they prevent the air getting through the plants. Should we experience any sunny weather and the house gets dry, give the pots and floors a slight syringing early in the morning, for Chrysanthemums do not like a dry, arid atmosphere. Green fly often makes its appearance; I find nothing better than a little tobacco powder sprinkled on the parts affected. The powder can be washed off afterwards. The watering will also require more attention, for the plants will not get so dry as formerly, and they do not like constant saturation; nothing will make plants turn yellow sooner, especially if they are not well rooted.—E.

Gladiolus Colvillei.

THE more I grow *Gladiolus Colvillei* The Bride the greater it is appreciated. Year after year we have had as many pots of bulbs as we could possibly find accommodation for, but the supply has nevertheless on no single occasion been equal to the demand. I have tried

Thol Tulips, but these are simply to afford flowers for 'cutting. I do not find that they thrive so well in the boxes as they do in pots, of which 32's always give the best results. This seems to point to the fact that they require a fairly sound quantity of soil, and I make them a thoroughly good compost of the best loam, some decayed manure, and coarse sand. I have on occasions further enriched the mixture with artificial manures, but the benefits derived therefrom have been scarcely commensurate with the cost, and I have stopped the practice. Instead



FIG. 66.—GLADIOLUS COLVILLEI.

several of the new early flowering Gladioli, but useful and beautiful as several of them undoubtedly are, and especially Sutton's Queen of Pinks, I must still swear allegiance to the old favourite which has done me such excellent service. Hundreds may be purchased at very small cost, and I do not think I have grown another bulbous plant that has given such an excellent return for the outlay and the labour involved. I grow a certain number in large 60-pots, and the remainder, and by far the larger proportion, in 32's. A few dozens find accommodation in shallow boxes, the same as Roman Hyacinths and Duc Van

of this I thoroughly drain the pots, use a quite porous soil, and then as the plants are in full vigour I feed them with liquid manure made from any available material, never applying the same sort twice in succession. After potting the corms I treat them precisely the same as the remainder of my stock of bulbs, exercising care that the foliage does not become weak and thin through being left over-long in the fibre bed. Forcing is done successively and very gently, the temperature never exceeding 60°, which, as a matter of fact, I consider about 5° too high.—G. LINGARD.



American Modesty.—What the French gardener or fruit grower can do the American ought to be able to accomplish. The first week in June of this year we saw at the central market in Paris Peaches sell for as high as 2.40 dols. each and Melons for 5 dols. apiece. Of course this stuff was grown under glass and represented rare skill in horticulture, but, says the "American Agriculturist," we lead the world in most lines where acuteness and energy are required, and we ought to get as high prices for our produce as anyone in the world.

Peach Princess of Wales.—This is a fine Peach for late work despite its somewhat pale colour under any but the best conditions. To do it well it requires ample light and a little warmth at the finish should the weather prove dull. The fruits are large, consequently free thinning is necessary, as it is useless growing skins and stones. The flavour of Princess of Wales Peach is improved if the fruit is gathered a day or two before it reaches its full development, or just as it parts from the tree easily, and finished in a warm fruit room. It must not be confounded with Prince of Wales, a smaller, but brighter Peach of superior flavour.—R.

London Wild Flowers.—For the past fortnight one of the railway embankments of the grimiest and gloomiest parts of Bermondsey has been gay with the brilliant blooming of the common or yellow Toad Flax (*Linaria vulgaris*). The plant is a common one by dry roadsides and on waste ground in many country districts. One species of the Toad Flax family grows wild within London—namely, the pretty Ivy-leaved Toad Flax, or Roving Jenny (*Linaria cymbalaria*). This little climbing plant may be found on old walls if diligently looked for. It is an alien in England, having been introduced from abroad, but it has now obtained a firm foothold all over the country. Another naturalised plant to be seen about the railway lines close to London is the beautiful rose-coloured Willow Herb. Wild flowers do not receive the attention they deserve from those who have excellent opportunities of cultivating them in and about London. Toad Flaxes, Loosestrife, Bedstraw, St. John's Worts, Stitch-worts, Willow Herbs, Celandines, even one or two species of the lovely wild English Orchids, might be induced to take kindly to the soil and soot of London. In conclusion, a word may well be said in praise of those who look after the railway embankments at Surbiton. There are few spring sights in suburban London more charming than the turf there spangled with Primroses throughout the month of May. But we want the wild flowers, not so much in the suburbs, where they can be reached easily, as in the teeming city itself.

Some September Plants.—The large, bright blue flowers of the wild Succory are to be seen growing at the present time in cultivated fields and elsewhere. I found the flower in something like abundance the other day growing in the grassy roadside; it blossoms from June till October, and is very striking, and not a particularly familiar wild flower. The blossoms wither very soon after they are picked. Like most other wild English flowers, says a correspondent in a daily contemporary, the Succory was once made use of by the rural folk. The roots were regarded as edible, and were sometimes used as a substitute for Coffee. Both species of Cat's-tail, or Reed Mace, are now to be seen at their best, the fine brown catkin being an ornament to many a lake and stream side. The smaller and slenderer Reed Mace is not seen so frequently as the larger one, but it is gathered and sold to those who like these plants as ornaments for their rooms. The smaller Reed Maces are often sold for a halfpenny apiece, while good specimens of the larger species will fetch a penny. The leaves of the greater Reed Mace are the so-called "flags," which are used extensively in the making of mats and chair bottoms. Now in the dying days of summer there are few things finer in our English flora than the berries of the Water Elder. These are of an intense red, and grow in close heavy masses, so that you can see the bush all aglow at a distance of several hundred yards. The effect is finer than that of the red berries of the misnamed Mountain Ash, which are also to be seen in their glory about now. The Water Elder is by no means confined to moist situations. It will grow in many dry spots.

Making Cacti Bloom.—In contradistinction to the general run of plants, most of the succulent plants, and especially the larger Cacti, can now scarcely have too much sun, and too little water, provided the shoots and stems are just kept plump. The best place for these in August and September is the south front of a wall or fence, where the sun will play freely on them, and if rains are anticipated it would be well to have tiles or slates placed over the pots, to throw heavy rains off them. Little water at the roots will now be wanted, provided the stems do not shrivel, and then next spring and summer there will be sure to be abundance of bloom. Such succulents are pretty well dried up in the dry season in their tropical or next to tropical homes, and the natural conditions in which they bloom most profusely present us with the key to their successful culture.—F.

Wood-pulp from Canada.—Canada is, according to Mr. George Johnson, statistician in the Department of Agriculture at Ottawa, the possessor of the largest forests of Spruce Fir in the world, and the supply of wood for pulp making is practically unlimited. The country moreover, possesses widely distributed water power, and a favourable condition of the labour market. The area covered with forest is about 1,400,000 square miles. Taking half this area, or 450,000,000 acres as under Spruce, which is capable of producing 4,500,000,000 tons of ground pulp, we have a quantity sufficient to keep the paper mills of the United States of America going at their present rate for fifty years taking 900,000 tons of pulp-wood as the quantity annually consumed in these mills. But Spruce reproduces itself to pulp-wood size in every thirty years. Hence, it is evident that the Spruce woods of Canada will meet all demands made upon them for ages to come.

Transplanting Magnolias.—Moist weather at the end of September or beginning of October is a good time to transplant evergreen Magnolias, which are now flowering. The end of March and beginning of April are the next best periods. It will be necessary to dig out a trench at least a yard from the stem if the tree is of moderate size, varying the distance of course with the size of the tree, so that in any case most of the fibres, or a good proportion of them, will be preserved along with a good ball. If a trench is dug out around the tree at some distance from the stem, and only thick roots are found, and the soil towards the trunk comes away freely, and is not plentifully filled with fibres, then fill up the trench again, and let the tree remain until that time twelve months; but if the soil from the trench towards the centre of the ball be full of roots, the soil coming away with difficulty, and requiring to be picked out with a fork, then work away any loose soil from amongst the roots, and move the tree at once with a good ball; after planting, spread a little fresh and moderately rich soil under and around the roots, and lay them carefully out. Give a good watering, stake, and tie with rope, interposing a hayband between the rope and the trunk to prevent the former cutting the bark.—P. J.

The "Geranium" in a New Light—Who would have thought the Geranium possessed medicinal properties? Yet we learn that an army sister, writing home from South Africa, tells of a wonderful new cure for dysentery. Several of the army medical men have, she says, adopted the native treatment for dysentery with remarkable results, some of the most hopeless cases in the camp having recovered almost immediately when they were put on the treatment. The cure is simple enough, consisting merely of a liquid extract of the Pelargonium, or Geranium root. Everybody at home is familiar with the charming flower, but it will be news to most that the root contains an antidote to the dreaded disease of dysentery. The effect in the cases so far has been almost magical. A new draw will be added to the British Pharmacopœia, but it is as old as the hills to South African natives. Kaffirs and Zulus have known of the Geranium root cure for dysentery ever since they have known anything, but this is the first time that European doctors have resorted to it. It has been used to a slight extent by the Boers; but the Dutchman pins his faith firmly to patent mixtures. To cure dysentery the native simply chews the Geranium root just as it is. There are upwards of 150 different kinds of wild Geranium in South Africa, and each seems to possess the power of cutting short the progress of a dysenteric attack. In camp we prepare the anti-dysenteric mixture by boiling 4 ozs. of Geranium root for twenty minutes in a pint of milk. One to two tablespoonfuls are given every two hours till all the symptoms of this campaign scourge are gone. This usually takes place in from thirty-six to forty-eight hours. So far it has not failed in one case.

Royal Horticultural Society.

Drill Hall, September 11th.

THE meeting in the Drill Hall on Tuesday was a most excellent one, there being quantity and quality in conjunction. The exhibits before the Floral Committee were of course most numerous, and the Gladioli and Roses were the most conspicuous features. The fruit from Messrs. J. Veitch & Sons was magnificent, but Orchids were by no means numerous.

Fruit Committee.

Present: P. Crowley, Esq. (in the chair); with the Rev. W. Wilks, and Messrs. H. Somers Rivers, J. H. Veitch, J. Cheal, G. Kelf, H. Esling, W. Pope, A. Dean, S. Mortimer, C. Herrin, J. Basham, E. Beckett, F. Q. Lane, J. Smith, G. Reynolds, G. Norman, and G. Bunyard.

Messrs. Harrison & Sons, Leicester, contributed a collection of dwarf French and Scarlet Runner Beans, including several of the more prominent varieties. The best runners were Invicta, Ne Plus Ultra, and Prizewinner; and of dwarfs, Canadian Wonder, Magnum Bonum, and Syon House. Messrs. H. Cannell & Sons, Swanley, showed a grand collection of Cabbage Cannell's Defiance, a splendid medium-sized variety. Messrs. G. Bunyard & Co., Maidstone, sent Nut Early Prolific Filbert, Apple Bielo Borodawka, and Cherry Bunyard's Late Morello.

Two seedling Nectarines, named respectively Brooker's Imperial and Coley Park Seedling, were sent by Mr. O. Brooker, Coley Park, Reading. Mr. Chas. Turner, Slough, exhibited remarkable fruiting branches of *Pyrus japonica*; they were simply roped with fruit varying in colour from green to bright yellow. Messrs. R. Veitch & Son, Exeter, were represented by Tomato Veitch's Glory, a handsome scarlet variety that crops freely.

Mr. J. Watkins, Withington, Hereford, showed a collection of Damsons and Bullaces comprising all the leading varieties. Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, showed Plums Moor Park and Minabelle, both in fine condition. Mr. H. Balderson, Corner Hall, Hemel Hempstead, staged half a dozen fruits of Melon Early Favourite. From the R.H.S. Gardens, Chiswick, came a collection of Tomatoes and Potatoes. Messrs. T. Rivers & Son, Sawbridge-worth, showed a magnificently fruited plant of Plum Monarch.

Mr. C. R. Fielder, gardener to Mrs. Burns, North Mimms Park, Hatfield, arranged a collection of about eighteen dishes of Plums, including Jefferson, Diamond, Victoria, Large Black Imperial, Pond's Seedling, Cox's Emperor, Kirke's, Denniston's Superb, Brahy's Green Gage, Monarch, Gihrie's Golden Gage, Green Gage, Archduke, Coe's Golden Drop, Belgian Purple, and Transparent Gage (silver Banksian medal). Messrs. Paul & Son, Cheshunt, exhibited a number of splendidly fruited plants in pots of Strawberry St. Joseph.

The finest collection of fruit in the hall, and one of the best exhibits in the entire show, was the collection of fruit from Messrs. J. Veitch & Sons, Chelsea. There was a very high average of quality throughout the exhibit, which included Plums Pond's Seedling, Reine Claude de Bavay, Cox's Emperor, Grand Duke, Victoria, Denniston's Superb, Goliath, Webster's Gage, White Magnum Bonum, Prince Engelbert, Monarch, Jefferson, Washington, Early Transparent, Kirke's, Lawson's Golden Gage, Transparent Gage, Coe's Golden Drop, and Archduke; Damson John Seden; Pears Madame Treyve, Beurré d'Amanlis, Beurré Langelier, Louise Bonne de Jersey, Williams' Bon Chrétien, Souvenir du Congrès, Beurré Fouqueray and Triomphe de Vienne; Apples The Queen, Yellow Ingestrie, Worcester Pearmain, Warner's King and Queen Caroline; Nectarines Lord Napier and Pine Apple; Peaches Princess of Wales, Late Devonian and Goshawk; Figs Negro Largo; Currants La Constante and White Dutch; Raspberry Norwich Wonder, the Parsley-leaved Bramble, *Rubus laciniatus*, and Crabs Transcendent, John Downie and baccata (silver Knightian medal).

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Druery, G. Nicholson, H. B. May, R. Dean, W. Howe, J. Hudson, J. Jennings, R. Fife, C. R. Fielder, J. D. Pawle, C. E. Pearson, J. Walker, H. J. Cutbush, H. J. Jones, E. H. Jenkins, J. W. Barr, C. Blick, E. T. Cook, and E. Molyneux.

Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood, arranged a display of Cactus and decorative Dahlias, also a good collection of Asters and Harpachums. The Cactus Dahlias formed the chief part of the exhibit. Ruby, Island Queen, Starfish, Britannia, Mrs. W. Noble, Cinderella, Mary Service, Chas. Woodbridge, and Arachne were the most notable. Messrs. Barr & Sons, Covent Garden, staged a good exhibit of Gladioli and other hardy flowers. The Gladioli included a selection of the Gandavensis section, and a few of the Lemoinei type. The Phloxes were noteworthy for the varieties staged, while the rest of the display was made up of a collection of Cactus Dahlias, Sunflowers in variety, Lilliums, and Michaelmas Daisies (silver Banksian medal).

Messrs. H. Cannell & Sons, Swanley, exhibited a beautiful group of Cannas in pots, which were remarkable for the large heads of bloom they were carrying, while the foliage was certainly all that could be desired. Some of the best varieties were Aurore, Jean Tissot,

Robert Christy, Emile Lorenz, Doyen J. Liabaud, Burbank, and Sister Dora. The Ferns used for an edging greatly enhanced the beauty of the display (silver-gilt Flora medal). From Messrs. J. Cheal and Sons, Crawley, came a large display of Dahlias, which comprised good collections of Cactus, Pompon, Show, Fancy, single, and single Cactus varieties. The whole exhibit contained some capital examples of each section. The Cactus and single varieties naturally made the most attractive part of the exhibit. In the Cactus section Wm. Jowitt, Chas. Woodbridge, Ranji, Mrs. Carter Page, Mrs. J. J. Crowe, Ajax, Zephyr, and Loadstone were capital; while the singles were staged in Messrs. Cheal's well-known style. A really good exhibit (silver-gilt Banksian medal).

Mr. J. H. Whitty, Nunhead Cemetery, sent a pretty group of early flowering Chrysanthemums. The flowers were large and well coloured, while the small Pompon varieties were charming, and as utilised quite effective (silver Flora medal).

Messrs. Jas. Veitch & Sons, Chelsea, staged a fine collection of hybrid Gladioli, which were chiefly shades of red. Some of the best forms were Vivian Morel, Colonel Gillon, President Chandon, President Carnot, General Saurier, and Mephistophiles. A large collection of Sweet Peas were arranged by Messrs. W. & J. Brown, Stamford. The flowers were very good considering the late period of the year. Some of the best staged were Blanche Burpee, Countess Cadogan, Lovely, Stanley, Her Majesty, Mars, Countess of Powis, Prima Donna, Emily Eckford, and Splendour. The same firm also staged a collection of Violas arranged in glasses, but this style does not do justice to the flowers (silver Banksian medal). Mr. H. J. Jones, Ryecroft Nursery, Lewisham, sent an effective collection of double and single Begonias of the semperflorens type. The exhibit was assisted with small Bamboos, Adiantums, and other foliage plants, also a useful collection of Heliotropes in pots; the latter comprised a good variety of colours, and some were highly perfumed (silver Banksian medal). Messrs. Harrison & Sons, Leicester, staged a collection of Sweet Peas, the bunches were large, and the quality of the blooms decidedly good for the season. Some of the most striking were Bronze King, Lottie Eckford, Salopian, Aurora, Gorgeous, Mrs. Eckford, Mars, Black Knight, Her Majesty, and Lady Penzance (bronze Flora medal).

Messrs. J. Burrell & Co., Cambridge, contributed the finest floral display in the hall, staging a collection of Gladioli running nearly the length of the hall, or about 166 spikes. The most remarkable feature of the varieties was their freshness, many of them having twelve fully expanded flowers. Some of the best were Altheus, Delicata, Baroness Burdett Coutts, Casilda, Martial, Dora Craven, Vida, Eunice, Phineas, Vulcan, Hetty Dean, Rosalind, Grand Ronge, and Iolanthe. Also two boxes of Cactus Dahlias, all of the best type, which included Tessa, Grandee, Imperator, Rosine, Artus, Lyric, and J. W. Wilkinson (gold medal). Messrs. Dobbie & Co., Rothesay, exhibited a collection of French and African Marigolds, also a few varieties of Antirrhinums. The African Marigolds, Lemon Queen and Prince of Orange, were grand, while the French Tall Striped left little to be desired, for the strain must be classed in the first rank.

Hardy flowers were staged in great variety by Messrs. T. S. Ware, Ltd., Feltham, but perhaps the most notable feature were the Phloxes; these included the well known varieties Le Mahdi, Coquelicot, Independence, Derviche, and Aurora, while the Lilliums, Gladioli, Gaillardias, Salvias, and Sunflowers all made a fine display (bronze Flora medal). Mr. Amos Perry, Winchmore Hill, made a good exhibit of hardy flowers. The bunches were lightly arranged, and the foliage employed imparted a lightness that was much appreciated. Perhaps the best plants were *Lychnis Haageana*, *Senecio pulcher*, *Callirhoe involucrata*, *Asclepias tuberosa*, a large collection of Asters, Tritomas, and Gaillardias; the whole exhibit reflected great credit on the firm at this season (silver Flora medal). Mr. C. Turner sent several new varieties of Pompon and Cactus Dahlias; a few of the former section appeared to possess considerable merit. Mr. J. Stredwick, Silver Hill Park, St. Leonards, exhibited a box of Cactus Dahlias, all seedlings. The most notable were Jealousy, J. Weir Fife, Lord Roberts, Percy Tullock, and Eclipse.

Roses.

Garden Roses were a great feature. Messrs. Paul & Son, Cheshunt, made a beautiful display; the bunches were large and of excellent quality. Some of the best were Madame Falcot, Francis Dubriel, L'Idéal, Gruss au Teplitz, Anna Ollivier, Souvenir de J. B. Guillot, Augustine Guinnoiseau, Madame P. Cochet, Papa Gontier, and Clara Watson. A small collection of Althæas formed an interesting part of this exhibit (bronze Flora medal). Messrs. F. Cant & Co., Colchester, also contributed a capital display of garden Roses which were bright and fresh. Those most notable were Souvenir de Catherine Guillot, White Maman Cochet, Robert Duncan, Rainbow, Perle d'Or, L'Idéal, Sunset, Queen Mab, Camoens, and Empress Alexandra of Russia (silver Banksian medal).

Mr. G. W. Piper, Uckfield, also sent a pretty exhibit of Roses. The new variety Sunrise, White Maman Cochet, and the old type were in capital form, as were also small bunches of Caroline Testout, Liberty, Perle des Jardins, Robert Duncan, and Papa Gontier. A novel exhibition of Roses was that from Messrs. W. Paul & Son, Waltham Cross, whose exhibit consisted entirely of varieties raised by

the firm, and a fine exhibit they made. The new Tea Rose Boadicea was in capital form. White Lady, Alexandra, Sylph, Exquisite, Enchantress, Corallina, Queen Mab, Sulphurea, and Empress Alexandra of Russia made a fine show, as did also several promising seedlings (silver Banksian medal). From the same firm came a beautiful group of *Salvia Ruhm Von Stuttgart*, a decidedly improved form of the old *Salvia splendens*. It should make a grand plant for autumn flowering.

A fine exhibit of Tea Roses, grown on the cultivated seedling Brier, came from Mr. Geo. Prince, Oxford, the specimen blooms being unusually good for the period, while the bunches of bloom were particularly bright. Some of the best were *Souvenir de Thérèse Levet*, *Souvenir de S. A. Prince*, *Perle des Jardins*, *Souvenir de Catherine Guillot*, *François Dubrenil*, *Rainbow*, and *Anna Ollivier* (silver-gilt Banksian medal). A grand Rose exhibit was staged by Mr. C. Turner, Slough, who staged large bunches of all the best autumn flowering varieties. It was difficult to say which were best where all were so good, but *Anna Ollivier*, *Bouquet d'Or*, *Queen Mab*, *Hon. E. Gifford*, *Perle des Jardins*, *Souvenir de C. Guillot*, *W. A. Richardson*, *Madame Abel Chatenay*, *Mrs. J. Laing*, and *Augustine Guinoisseau* were excellent (silver-gilt Banksian medal). From Messrs. G. Cooling & Sons came a pretty display of autumn Roses. The bunches were well displayed and the quality of the flowers decidedly good; notable were *Grace Darling*, *Amazon*, *The Bride*, *Sunset*, *Dr. Grill*, *Perle de Feu*, *Maman Cochet*, *Queen Mab*, *Gustave Regis*, *Bridesmaid*, *Perle des Jardins*, *Madame Hoste*, and *Medea* (silver Flora medal).

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, J. G. Fowler, de B. Crawshaw, H. M. Pollett, H. J. Chapman, J. T. Gabriel, W. H. Young, H. A. Tracy, J. Wilson Potter, F. J. Thorne, W. Cobb, T. W. Bond, and A. Hay.

As on the two previous meetings, Orchids were by no means numerous. Two collections of *Dendrobium Phalaenopsis Schröderianum* were arranged by Mr. G. Cragg, gardener to W. C. Walker, Esq., Winchmore Hill, and Messrs. F. Sander & Co., St. Albans, respectively. Both of these contained well-grown plants carrying excellent flowers. Mr. J. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford, staged a plant of *Cattleya bicolor Glebelands* variety. The magnificently grown plant carried eleven spikes, with upwards of sixty flowers of excellent form and colour. Mr. N. C. Cookson, Wylam-on-Tyne, sent two hybrid *Cypripediums*, and Captain Holford a form of *Cattleya aurea*.

Mr. H. Pratt, gardener to Arthur Hay, Esq., Oakley Park, Eye, Suffolk, contributed a healthy plant of *Vanda cœrulea*, having a splendid spike of the well known and beautiful flower. Mr. E. Kromer, West Croydon, sent a plant of *Zygopetalum crinitum*. The green, brown, and crimson flowers were very attractive. Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Camberwell, sent *Cypripedium Unxia*, a hybrid from *C. Harrisonianum superbum* and *Lawrebel*, with C. Mrs. W. L. Ames, a hybrid from *C. tonsum* and *C. Farrieanum*. De Barri Crawshaw, Esq., Sevenoaks, staged *Odontoglossum Halli-crispum roseum* and *O. Wattianum Crawsbayanum*, both fine forms raised at Rosefield.

Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton, exhibited a seedling plant from *Dendrobium formosum giganteum*. The plant shown was in the best of health. The seedlings germinated in the baskets in which they are now growing, not having been disturbed. They are three years and six months old. The imported plant in the basket came over in 1897 with the seed amongst the roots or upon the stems. The flower on the seedling was of excellent size and perfect form. Mr. F. J. Thorne, gardener to Major Joicey, Sunningdale, sent a grand plant in flower of *Dendrobium taurinum amboinense*. This is the first time this has flowered in this country on home-made pseudo-bulbs.

Certificates and Awards of Merit.

Anemone japonica Mont Rose (Paul & Son).—A semi-double variety with rose-pink flowers (award of merit).

Apple St. Everard (C. Terry).—A dessert variety, rather below medium size. The wide open eye is set almost on a level with the fruit; the stalk is stout and very straight. The colour is deep red with numerous white dots; it is greener on the shaded side (award of merit).

Cabbage Cannell's Defiance (Cannell & Sons).—This splendid Cabbage is so well known that a description is entirely superfluous (first-class certificate).

Cattleya bicolor Glebelands variety (J. Davis).—A splendid variety with a fine rose lip; sepals and petals brown suffused with green at the margins (award of merit).

Dahlia Galatea (C. Turner).—A Pompon variety of good form and of dull crimson shade (award of merit).

Dahlia Sybil (C. Turner).—A yellow variety tipped with crimson; it is of the Pompon section (award of merit).

Dahlia Artus (J. Burrell & Co.).—A rich orange buff Cactus variety of good type (award of merit).

Dahlia Imperator (J. Burrell & Co.).—A superb Cactus variety; the colour is rich ruby red (award of merit).

Dahlia Rosine (J. Burrell & Co.).—A brilliant scarlet rose of good form; the florets are purple, suffused at the tips (award of merit).

Dahlia Lyric (J. Burrell & Co.).—A bright red Cactus, with yellow at the base of the florets (award of merit).

Dahlia J. W. Wilkinson (J. Burrell & Co.).—A perfect Cactus variety; the colour is rich crimson with a suspicion of purple at the tips (award of merit).

Dahlia Galliard (J. Burrell & Co.).—A brilliant scarlet Cactus variety of good type (award of merit).

Dahlia Vesta (J. Burrell & Co.).—A decided improvement upon *delicata*; probably the finest pink (award of merit).

Dahlia Dinorah (J. Burrell & Co.).—An orange buff with charming petals (award of merit).

Dahlia Eclipse (J. Stredwick).—A soft yellow Cactus variety of perfect form (award of merit).

Dahlia Jealousy (J. Stredwick).—A broad petalled Cactus of rich canary yellow shade (award of merit).

Gladiolus Althæa (J. Burrell & Co.).—A handsome salmon rose coloured variety, with scarlet and maroon splashes (award of merit).

Gladiolus Delicata (J. Burrell & Co.).—An exquisite variety, the colour is very soft rose, deepening slightly at the margins (award of merit).

Heliotrope Docteur Jerlise (H. J. Jones).—A deep coloured variety with a very fine truss; it holds its flowers remarkably well (award of merit).

Nut Early Prolific (Bunyard & Co.).—A frizzled Filbert of exceptionally good quality (award of merit).

Potato Baden Powell (Caddick).—A pale coloured variety of pebble shape; it is rather deep in the eye (award of merit).

Potato Sir J. Llewellyn (J. Harris).—A handsome kidney variety with very shallow eyes (award of merit).

Potato Centenary (Sutton & Sons).—A round or pebble shaped tuber with a rough skin and somewhat deep eyes (award of merit).

Potato Supreme (Sutton & Sons).—Too well known to call for a description; it was hardly in character as shown (award of merit).

National Dahlia Society.

Crystal Palace, September 7th and 8th.

THE gathering of the members of the National Dahlia Society on Friday and Saturday at the Crystal Palace was a distinct success in respect of the quality of the flowers, though the number of visitors on the first day seemed very small. The entries on the whole were well up to the average, and in some cases slightly above it, but we heard one or two experienced florists deploring the decadence of the Show and Fancy flowers, of which some very inferior blooms were seen. In the professional section it was largely, amongst the Shows and Fancies, a one man exhibition, for Mr. John Walker annexed nearly the whole of the first prizes; needless to say he was showing admirably. As a rule there were only three exhibitors in these classes. The competition for Pompons and for single Dahlias again was decidedly poor, which is a matter for extreme regret, as the flowers in both cases are extremely beautiful. Such Pompons as shown by Mr. Charles Turner, and singles by Messrs. J. Cheal & Sons, ought by their exceptional excellence to prove great incentives to the wider cultivation of these particular types. The Cactus section was, as has become customary, by far the finest. There were numbers with quality, and a more brilliant display has rarely been seen. Messrs. Burrell & Co. had some superb seedlings in their various boxes.

It was observable that in the amateurs' division of the exhibition the order of excellence conspicuous in that just referred to was exactly maintained. The number of exhibitors in many of the classes was, however, higher than amongst their professional brethren; but it was here that the inferior flowers of Show and Fancy varieties were most in evidence. With the exception of the confusion on the table reserved for seedlings to which reference is made in the progress of our report, the arrangements, in the hands of Mr. J. F. Hudson, were well carried out, and the judging was actually commenced within twenty minutes of the advertised time of starting. We subjoin a list of the prizewinners with names of the varieties in every first prize stand where these were procurable.

Nurserymen.—Show and Fancy Dahlias.

The premier award in the class for sixty Show and Fancy Dahlias, distinct, went to Mr. John Walker, Thame, Oxon, who contributed a beautifully even stand of refined flowers. The varieties represented were *Flo Tranter*, *Chieftain*, *Rev. J. B. M. Camm*, *T. W. Girdlestone*,

Seraph, Danby (self), J. Walker, Victor, Mrs. Morgan, Hero (self), W. Powell, D. Cornish, J. T. West, Champion Rollo, Mrs. J. Greaves, J. Standish, H. Turner, Mrs. J. Downie (self), Virginale, Duke of Fife, Mrs. Foreman, Dr. Keynes, T. S. Ware, Mrs. Every, Jas. Cocker, T. J. Saltmarsh, Colonist, Prince Henry, Prof. Fawcett (self), Perfection, J. Forbes, Queen of Belgians, Grand Sultan, Royal Queen, Mr. G. Harris, Goldsmith, Chorister (self), Mabel Stanton, Mabel, J. C. Reid,

uneven stand, comprising a few flowers of exceptional merit, but the majority were undersized. There were three competitors in this class.

There were four competitors in the class for forty-eight Show and Fancy, distinct, and the first prize was adjudged to Mr. J. Walker, with Miss Cannell, J. Cocker, J. Hickling, Purple Prince, Wm. Powell, Duke of Fife, Mabel Stanton, J. Standish, Goldsmith, Virginale, Chieftain, Muriel Hobbs, Sailor Prince, T. W. Girdlestone (self), Mrs. Morgan,

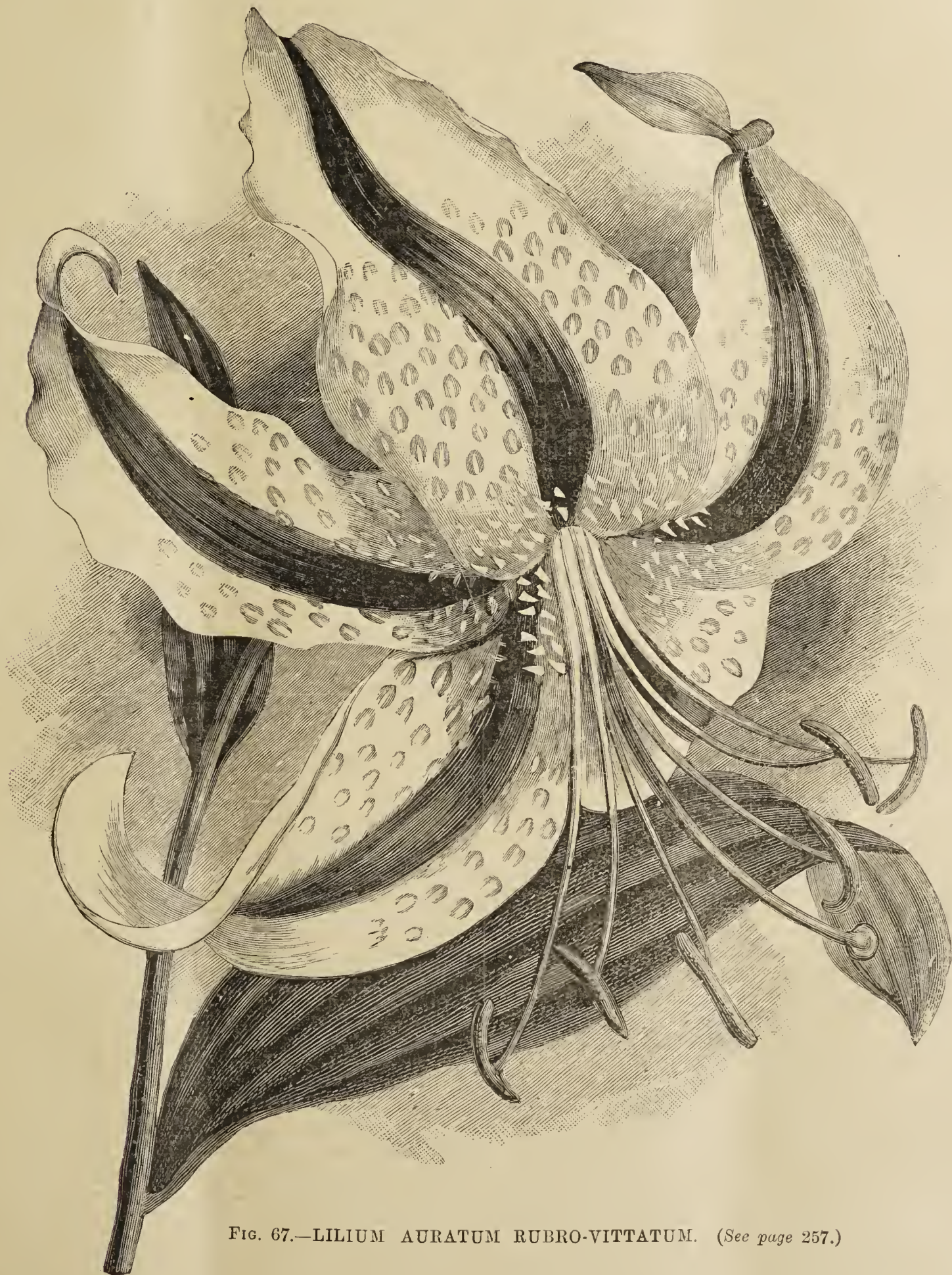


FIG. 67.—LILIUM AURATUM RUBRO-VITTATUM. (See page 257.)

Mrs. Gladstone, Comedian, Mrs. Slack, Wm. Rawlings, R. T. Rawlings, J. Wyatt, Flag of Truce, J. Forbes (self), Matthew Campbell, Geo. Rawlings, Kathleen, J. Bennett, Dorothy, Sunset (self), J. C. Vaughan, Diadem, Miss Barber, Mrs. D. Saunders, Chorister, and A. Rawlings. Mr. S. Mortimer, Rowledge, Farnham, secured the second prize. The flowers were somewhat smaller than those of Mr. Walker, in fact they were hardly sufficiently developed, but they were of excellent colour. The best were J. C. Vaughan, Zephyr, Shirley Hibberd, Rev. J. B. M. Camm, Mrs. Saunders, Jas. Stephens, Queen of the Belgians, and Glowworm. Mr. M. V. Seale, Sevenoaks, was placed third with an

Imperial, Victor, Rev. J. B. M. Camm, J. T. West, Ethel Britton, Mrs. Downie (self), J. Walker, Mrs. Every, T. J. Saltmarsh, Shottesham Hero, Flo Tranter, Duchess of York, Diadem, Mabel, J. C. Vaughan, Chorister (self), R. T. Rawlings, Maud Fellowes, Mr. G. Harris, Mrs. J. Greaves, Mrs. Foreman, Flag of Truce, A. Rawlings, J. C. Reid, F. Pearce, Nubian, Prince Henry, Professor Fawcett (self), Kathleen, Matthew Campbell, G. Rawlings, Mrs. Gladstone, and Comedian. Mr. S. Mortimer again occupied the second position with J. C. Vaughan, Mabel Stanton, Shottesham Hero, Glowworm, Goldfinder, Mrs. J. Downie, Sunbeam, Geo. Rawlings, and Richard

Dean as his best. Messrs. Keynes, Williams, & Co., Salisbury, were third.

For thirty-six Show and Fancy Dahlias, distinct, Mr. G. Humphries was an excellent first with an even stand, containing Perfection, Daniel Cornish, Thos. Pendered, Duke of Fife, Duchess of Albany, Purple Prince, Ethel Britton, the Rev. J. Gooday, T. J. Saltmarsh, Hugh Austin, Danby (sport), Buffalo Bill (sport), Sailor Prince, J. Walker, Earl of Ravensworth, Flo Tranter, Wm. Rawlings, Mrs. Gladstone, Victor, Countess of Ravensworth, Mr. Glasscock, R. T. Rawlings, Prince of Denmark, Mand Fellowes, Shottesham Hero, A. Rawlings, David Johnson, Shirley Hibberd, Harry Turner, Duchess of York, Buffalo Bill, Miss Cannell, Crimson King, Flag of Truce, and Dorothy. Mr. W. Treseder, Cardiff, was second with slightly smaller but very fresh, bright and even blooms. Amongst the most meritorious were Mrs. J. Foreman, Dr. Keynes, Watchman, Rebecca, T. J. West, Mrs. Dodds, Mrs. Langtry, Henrietta, and Virginale. Mr. H. Brownhill, Sale, Cheshire, was third. There were three competitors in this class.

In the class for twenty-four, distinct, the prizewinners were Messrs. J. Cray & Sons, Frome, H. Humphries, and Wm. Treseder, in the order in which their names are here given. The first prize stand contained the Rev. J. B. M. Camm, Colonist, Duchess of York, Dr. Keynes, T. S. Ware, T. W. Girdlestone, Emin Pasha, Duke of Fife, Mrs. Gladstone, Excellent, R. T. Rawlings, Harry Keith, Matthew Campbell, Buffalo Bill (self), Wm. Powell, Victor, Richard Dean, Goldfinder, Wm. Rawlings, Mrs. Every, Prince of Denmark, Mr. Slack, Willie Garrett, and Florence Tranter. This was a very even and creditable stand.

Mr. J. R. Tranter, Henley-on-Thames, was awarded the premier prize in the class for twelve Show and Fancy Dahlias, distinct, with an attractive stand, comprising T. W. Girdlestone, Mrs. Saunders, Lord Salisbury, Mrs. D. Saunders, Shottesham Hero, Jas. Cocker, R. T. Rawlings, Duke of Fife, Shirley Hibberd, Mrs. J. Downie, George Barnes, and Miss Cannell. Messrs. J. Cheal & Sons contributed the only other stand in the class for which they were adjudged the second prize.

Mr. G. Humphries was adjudged the premier position in an extra class for eighteen Fancy Dahlias, in six varieties, three blooms of each, with Walter Spriggs, Lottie Eckford, Mrs. J. Downie, Dorothy, Sunset, and Sailor Prince; Mr. J. Walker was second with Comedian, Frank Pearce, Dorothy, T. W. Girdlestone, Comte de Saux and John Forbes; Mr. S. Mortimer was third.

Cactus Dahlias.

This is a most popular section and invariably contains many flowers of excellent quality. For eighteen distinct varieties shown in bunches, each comprising six blooms, Messrs. J. Burrell & Co. were first with a splendid stand, comprising Imperator, Vesta, Grandee, Tessa, Nevada, Uncle Tom, Rosine, Persis, Mrs. Peart, Lyric, J. W. Wilkinson, Dinorah, Elsie, Norma, Artus, Ignea and Mrs. J. J. Crowe. This was a splendid collection of true Cactus Dahlias, mainly consisting of seedlings of the firm's own raising. Messrs. J. Cheal & Sons were an excellent second, and Mr. J. Stredwick third. There were three competitors.

Mr. S. Mortimer annexed the premier award in the class for twelve distinct Cactus Dahlias, six blooms in a bunch, with Britannia, Mrs. John Goddard, Viscountess Sherbrooke, Harmony, Mary Service, Ebony, Progenitor, Zephyr, Mrs. Castle, J. F. Hudson, Lucius, and Maurice S. Walsh. There were several excellent flowers in this stand. Mr. H. Shoemith, Clarendon Nursery, Woking, was a fine second with a most creditable stand, and Mr. M. V. Seale third. There were five competitors in the class.

The class for sixty Cactus Dahlias, not more than two blooms of a sort, with Dahlia foliage, brought forth four exhibitors, of whom Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, secured the first prize. The varieties represented were Imperator, Mrs. Peart, Acis, Zephyr, Persis, Dinorah, Grandee, Mrs. J. J. Crowe, Norma, Galliard, Emperor, Ajax, Britannia, Artus, Ignea, Chas. Woodbridge, Elsie, J. W. Wilkinson, The Clown, Olive, Rosine, Nevada, Mrs. Peart, Radiance, Elvira, Lucius, Casilda, Mrs. Carter Page, Electra, Vesta, Uncle Tom, Bernice, Vida, Lyric, Debonair, J. F. Hudson, Arachne, Sylph, Cygnet, Vesta, and Oberon. Messrs. J. Cheal & Sons were second, and Mr. J. Stredwick, St. Leonards, third.

In the class for twenty-four blooms, distinct, with Dahlia foliage, the first prize went to Mr. W. Treseder, Cardiff, who staged splendidly. The varieties were Cornucopia, Wm. Treseder, Mrs. J. Goddard, Londstone, Emperor, Magnificent, Night, Chas. Woodbridge, Mrs. Murray Ind, Mrs. Carter Page, Alfred Vasey, Wm. Cuthbertson, Starfish, The Clown, R. diance, A. J. C. Hare, Lady Penzance, Cap Broad, Laverstock Beauty, Kingfisher, Loyalty, Ruby, and Firebrand. The variety Wm. Treseder, white, was splendid; it is a seedling raised by the exhibitor. Mr. W. Baxter, Woking, was a good second with several of the most popular varieties in excellent form. Mr. G. Humphries was third. There were eight competitors in the class.

In the class for twelve varieties of Cactus Dahlias, six blooms of each, shown in vases with any foliage, Mr. M. V. Seale was first with Night, Mary Service, Magnificent, Mayor Tuppenny, Chas. Woodbridge, Starfish, Keynes' White, Countess of Lonsdale, Capstan, King of Siam, Britannia, and Lucius. Messrs. J. Cheal & Sons were second with

superior flowers, but not very artistically shown. Mr. W. Treseder was third. There were five exhibitors in this class.

Pompon Dahlias.

Mr. Chas. Turner, Slough, was a splendid first in the class for twenty-four Pompon Dahlias, in bunches of ten blooms each, with Capt. Boyton, Emily Hopper, Douglas, Sunny Daybreak, Sybil, Eurydice, Whisper, Isabel, Phoebe, Mars, Snowflake, Arthur West, Vara, Bacchus, Iris, Tommy Keith, Imogene, Clarissa, Ganymede, Nora, Fabio, Nerissa, Orpheus, and Galatea. The blooms were of the true typical form of the Pompon, which is not always observable in present day stands. Messrs. J. Cheal & Sons were second, and Mr. M. V. Seale third. Messrs. Cheal's stand was very bright; the best varieties were Nerissa, Jessica, Ernest Harper, Adrienne, Sunny Daybreak, Eric, Eurydice, Rosebud, Snowflake, and Emily Hopper. There were four stands in competition.

For twelve bunches of Pompoms, each comprising ten blooms, Messrs. J. Burrell & Co., Cambridge, were first with a beautiful exhibit of Bacchus, Emily Hopper, Nerissa, Geo. Brinckman, Ganymede, Douglas, Sunny Daybreak, Eric, Distinction, Donovan, Isabel, and Nellie Broomhead. Mr. G. Humphries, Chippenham, was second, his bunches of Dr. Jim, Bacchus, Ceres, Eve, Lilian, and Sunny Daybreak being particularly conspicuous. Mr. J. Walker was third.

Single Dahlias.

There were two competitors in the class for twenty-four bunches of single Dahlias, each bunch to comprise ten blooms, and the first place was secured by Messrs. J. Cheal & Sons, Crawley, who exhibited Muriel, Amos Perry, Miss Henshaw, Veronica, Mrs. J. Connick, Donna Casilda, The Bride, Shamrock, Lord Rosebery, Miss Morland, Alba Perfecta, Daisy, Aurora, Miss Gordon, Tommy, Miss Roberts, Victoria, Puck, Miss Glasscock, Polly Eccles, Formosa, Violet Forbes, Damon, and Columbine. Mr. M. V. Seale was the only other competitor, and received the second prize with a stand containing several inferior flowers.

In the class for twelve bunches of single Dahlias, ten blooms in a bunch, Mr. J. Walker, who was the only exhibitor, was adjudged the premier award with a stand of flowers in which many were overlarge. The varieties represented were Aurora, Eclipse, Naomi Tighe, Beauty's Eyes, Peacock, The Bride, Donna Casilda, Formosa, Miss Roberts, Victoria, Puck, and Miss Henshaw.

Open Classes.

In the open class for a shower bouquet of Cactus Dahlias there were only two competitors, Mr. W. Treseder, Cardiff, scoring first for a beautiful bouquet of Mabel Keith with appropriate foliage; Mr. M. V. Seale, Sevenoaks, was second with a combination of Arachne and a variety of foliage. In the class for nine plants in pots, not to exceed 10 inches in diameter, only one competitor put in an appearance, and as far as we could ascertain no award was made. Although the plants were well grown, little flower was to be seen. Single Dahlias were represented in the class for eighteen varieties, ten blooms each, by two exhibitors, Messrs. J. Cheal & Sons, Crawley, being placed first for a beautiful exhibit. The varieties staged were Gulie, Peacock, Hilda, Veronica, Jeanette, Chas. Parrott, Tommy, Amos Perry, Miss Girdlestone, Flame, Duchess of Marlborough, Jack Shepperd, Mrs. R. Hoare, Miss Glasscock, Louisette, Paragon, Northern Star, and Victoria; and Mr. M. V. Seale, Sevenoaks, was a good second.

For six blooms of any dark Dahlia Mr. J. Walker was first with splendid examples of Prince of Denmark. Mr. R. Burgin, St. Neots, was second; and Mr. M. V. Seale third with the same variety. Of the seven stands in competition five were of Prince of Denmark. Mr. J. Walker was first for six blooms of any light Dahlia (not yellow or white) with Mrs. Gladstone. Mr. R. Burgin was second, and Messrs. J. Cheal & Sons third. Six exhibitors faced the judges in this class, and the whole of them relied upon Mrs. Gladstone. In the class for six blooms of any yellow Dahlia Mr. J. Walker was again first with Wm. Powell in superb form. Mr. R. Burgin was second with R. T. Rawlings; and Messrs. Keynes, Williams & Co. third with Wm. Powell. There were six competitors in this class.

For six blooms of any red or crimson Dahlia Mr. J. Walker was first with A. Rawlings in grand condition, Mr. S. Mortimer was second with Diadem, and Mr. G. Humphries third with Arthur Rawlings. There were five competitors in this class. For six blooms of any white Dahlia the premier award went to Mr. J. Walker with John Walker, Mr. G. Humphries was second, and Mr. M. V. Seale third, each with the same variety. They were the only exhibitors in the class. For six blooms of any colour other than those particularised in the preceding five classes Mr. M. V. Seale was first with Sunbeam, Mr. J. Walker was second with Imperial, and Mr. T. Anstiss, Brill, third with Thomas Anstiss. Six stands were staged.

For six blooms of any tipped Fancy Dahlia Mr. J. Walker was first with Mrs. N. Hals, and Mr. T. Anstiss second with Mrs. Saunders. For six blooms of any striped Fancy Dahlia Mr. J. Walker was first with beautiful blooms of Matthew Campbell. Mr. R. Burgin was second with the Rev. J. B. M. Camm, and Messrs. J. Cheal & Sons third with Matthew Campbell. There were four stands in competition. For six blooms of any edged Show Dahlia Mr. J. Walker was first with Shottesham Hero in good form. Mr. M. V. Seale was second with Miss Cannell, and Mr. J. R. Tranter third with J. T. West. There were six competitors in the class.

Amateurs—Show or Fancy Dahlias.

In the class for twenty-four blooms, distinct, of Show or Fancy varieties, there were no less than six competitors. Mr. F. W. Fellowes, Hitchin, proved the victor with a good even board. The varieties were T. W. Girdlestone (self), Harrison Weir, Chieftain, Wm. Powell, Mrs. W. Slack, T. W. Girdlestone, Marjorie, Miss Cannell, Bella, Jas. Cocker, Norma, Prince Bismarck, Mrs. Langtry, John Walker, Duchess of York, John Bennett, Shottesham Hero, Mrs. W. Fellowes, Fred Smith, Crimson King, Miss Browning, Dante, Mrs. Gladstone, and Matthew Campbell. Mr. T. Austiss, Brill, was a capital second, there being little to choose between this and the winning board. His best varieties were Daniel Cornish, R. T. Rawlings, Dr. Keynes, Colonist, T. J. West, Florence Tranter, and Chieftain. Mr. R. Burgin made a fair third, and Mr. T. Hobbs, Bristol, fourth.

There were three competitors in the class for eighteen blooms, Show or Fancy, distinct. The first prize falling to Mr. E. West, jun., Henley-on-Thames, who staged a neat, even board of Rebecca (self), Mrs. Langtry, Hercules, Dr. Keynes, Mrs. Morgan, Goldsmith, Daniel Cornish, Wm. Powell, Duchess of York, Wm. Keith, Mabel Stanton, Shirely Hibberd, Goldfinder, Geo. Rawlings, Harry Keith, Chieftain, Arthur Rawlings, and Kathleen. Mr. W. Wheeler, Henley-on-Thames, followed with a bright board. His best flowers were Peacock, Daniel Cornish, Geo. Rawlings, Plutarch, J. R. Tranter, and Willie Garratt. Mr. W. J. Joy, Havering-atte-Bower, was third.

Show Dahlias.

For twelve blooms, distinct, Shows only, there were four entries, and Mr. J. Thompson, Hollywood, Oldham, was awarded first place for some grand blooms, badly staged. The varieties were Maud Fellowes, Wm. Rawlings, R. T. Rawlings, Chieftain, Arthur Oeck, Clara, Dante, Willie Garratt, Yellow Globe, John Henshaw, Rosamond, and one unnamed. Mr. S. Cooper, Chippenham, was second with typical flowers of Prince of Denmark, Ethel Briton, Mrs. Langtry, and Goldfinder. Mr. E. Jefferies, Langley Burrell, was a good third.

The same number of competitors contested the class for six varieties, distinct. Mr. R. Whittington, Cradley, Surrey, staged six grand blooms for first place. There were Colonist, Mrs. Gladstone, Shottesham Hero, Dr. Keynes, Mrs. Langtry and Vice President for varieties. Mr. Seamer, Peterborough, was second, his best blooms being Colonist, Prince of Denmark and R. T. Rawlings. The third prize fell to Mr. H. J. Stenning, Tunbridge Wells.

Fancy Dahlias.

In the class for twelve Fancy varieties, distinct, the five competitors made a capital class. Mr. R. Burgin was first with a good exhibit of Rev. J. B. M. Camm, T. W. Girdlestone, Duchess of Albany, Buffalo Bill, Mrs. J. Downie, Portia, Chorister, Henry Eckford, Mrs. Saunders, Mrs. H. Halls, Matt. Campbell and Lottie Eckford. Mr. S. Cooper, Chippenham, followed with good examples of Lottie Eckford, Hercules, Prince Henry, Peacock, Henry Eckford and John Cooper; Mr. T. Austiss was third.

For six varieties there were four entries. Mr. Seamer was placed first with a strong board, the varieties being Mrs. J. Downie, T. W. Girdlestone, Chorister, Rev. J. B. M. Camm, Mrs. N. Halls, and Matt. Campbell. Mr. E. Jefferies was second with good blooms of Rebecca, John Cooper, and Lottie Eckford; and Mr. W. Wheeler was third.

Cactus Dahlias.

The Cactus varieties made a brave show in all the classes, but in that for twelve bunches of six blooms each only three competitors staged, but all were good. Mr. F. W. Sharp, Twyford, was first with a fresh bright display; the bunches were well arranged. His varieties included Viscountess Sherbrooke, Zephyr, Britannia, Cycle, Mary Service, Uncle Tom, Stella, Casilda, Alfred Vasey, Keynes' White, Lucius, and Countess of Lonsdale. Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton, was second with smaller flowers. His best sprays were Chas. Woodbridge, Sylph, Red Rover, Mrs. J. J. Crowe, and Mrs. Carter Page. Mr. W. Mist, Ightham, was third with coarser flowers.

The class for nine sprays of three blooms each brought out nine competitors, of whom Mr. H. L. Brownson, jun., Sidcup Place, Kent, was placed first. The exhibitor departed from the orthodox show-box, and staged in vases. The varieties were Starfish, Mayor Tuppenny, Loyalty, Maurice Walsh, Uncle Tom, Chas. Woodbridge, Mrs. J. J. Crowe, Mrs. Carter Page, and Emperor. Mr. F. W. Fellowes was a good second with capital examples of Mrs. J. J. Crowe, Mayor Tuppenny, Chas. Woodbridge, Uncle Tom, and Mrs. Carter Page. Mr. W. Peters, St. Leonards, was third.

Four competitors faced the judges in the class for six bunches of three blooms. The first prize was allotted Mr. E. Jefferies for a fresh exhibit of Chas. Woodbridge, J. F. Hudson (superb), Mary Service, Alfred Vasey, Britannia, and Island Queen. Mr. E. Mawley, Berkhamsted, was a close second with good sprays of Chas. Woodbridge, Lucius, and Exquisite; while Mr. S. Cooper, Chippenham, made a good third. The class for six bunches of three blooms each, restricted to certain varieties, only brought out two competitors. The first prize was awarded to Mr. W. Peters, who staged Magnificent, Wm. Jowitt, Mayor Weston, Mrs. Saunders, Mayor Tuppenny, and Uncle Tom. Mr. W. Mist was placed second.

For eighteen blooms, distinct, of Cactus Dahlias with their own foliage there were five entries. The first prize was awarded to Mr. J. Bryant, Salisbury, for an even display. The varieties were Britannia, Ajax, Countess of Lonsdale, Primrose Dame, Cornucopia, Mrs. Carter Page, Mrs. J. J. Crowe, Night, Elsie, Mary Service, Chas. Woodbridge, Wm. Tieseder, Mayor Tuppenny, Loyalty, Lovely, The Clown, Laverstock Beauty, and J. F. Hudson. Mr. F. W. Sharp, Twyford, was second with good blooms of Stella, Zephyr, Lucius, Countess of Lonsdale, Falka, and Eony. Mr. L. McKenna, Twyford, was third.

The class for twelve blooms proved a popular one, no less than nine contestants staging. Mr. H. A. Needs was a good first with Britannia, Radiance, Mrs. J. Goddard, Mrs. Carter Page, Ethel, Countess of Lonsdale, Cinderella, Capstan, J. F. Hudson, Lucius, Chas. Woodbridge, and Mary Service. The second prize was awarded to Mr. E. Turner, who staged good blooms of Fusilier, Chas. Woodbridge, Lady Penzance, and Mrs. J. Goddard. Mr. W. Peters was third.

Pompon Dahlias.

The Pompoms in the amateur classes did not shine very brilliantly. In the class for twelve varieties of six blooms each there were five competitors. Mr. H. J. Stenning, Tunbridge Wells, was placed first for a well-displayed exhibit, comprising Mary Kirk, Eurydice, Sunny Daybreak, Lilian, Dr. Jim, Bacchus, Nerissa, Arthur West, Tommy Keith, Rosebud, Captain Boyton, and Emily Hopper. Mr. J. Hudson was a good second with J. F. Junker, George Brinckman, Douglas, and Bacchus. The third prize fell to Mr. W. Mist.

For six varieties of six blooms each only three competitors staged, but the flowers were good in all the stands. The first position was secured by Mr. W. C. Pagram, Weybridge, and every one of the flowers had been grown on an allotment. The varieties were Geo. Brinckman, Bacchus, Captain Boyton, Emily Hopper, Nerissa, and Dr. Jim. The second prize went to Mr. W. Peters, who had typical examples of Hypatia, White Aster, and Eurydice. Mr. S. Cooper was third with coarser flowers.

Single Dahlias.

The single Dahlias appear to become less popular each year. In the class for six varieties of ten blooms each there were only three competitors, and the winning stand from Mr. J. Hudson stood out conspicuously from the others. The varieties, which were all typical of what a single Dahlia should be, were Miss Morland, Gulielma, Kitty, Polly Eccles, Naomi Tighe, and Eric. Mr. C. Osman, Sutton, followed with coarser flowers, and Mr. W. Mist brought up the rear. For six varieties of six blooms each only two competitors staged, Mr. E. Mawley being an easy first. The blooms were beautifully staged, and of the correct size. The varieties were Miss Roberts, Cleopatra, Tommy, Polly Eccles, Victoria, and Aurora. The Rev. S. Spencer Pearce, Woodstock, was second.

Vase Decoration.

The decorative classes were well filled, and in most cases the exhibits were of good quality and finish. In the class for an epergne of Dahlia blooms, arranged for effect, with any kind of foliage or Grasses, there were six exhibits. The first prize was awarded to Mr. R. Edwards, Sevenoaks, for an arrangement of Cactus, single, and Pompon Dahlias. Mr. W. C. Pagram came second with a light, graceful display, and Mr. J. F. Hudson third. In the class for a vase of twelve Dahlia blooms, arranged for effect, the exhibits might have been much better, notwithstanding the fact that there were seven competitors. The first prize was awarded to Mr. H. E. Bouch, The Limes, Keston, who had Mrs. Wilson Noble and Matchless arranged with Prunus Pissardi, Ferns, and Asparagus foliage. Mr. J. F. Hudson was second, using Magnificent with Acer and Asparagus foliage; while Mr. E. Turner, gardener to the Rev. H. P. Thompson, was third. For three vases of Cactus blooms, six blooms each, arranged with any foliage or Grasses, there were six competitors. The first prize was awarded to Mr. H. A. Needs for a somewhat heavy arrangement of excellent blooms. Mr. R. Edwards was second, and Mr. J. F. Hudson third.

Novices' Classes.

For six blooms, distinct, Show or Fancy varieties, there were five competitors, the first position being taken by Mr. J. Thompson for a grand six, badly staged. The varieties were Clara, Mrs. Saunders (grand), Maud Fellowes, Jas. Vick, R. T. Rawlings, and Rosamond. Mr. H. J. Stenning was second with good blooms of Prince of Denmark, R. T. Rawlings, and Mrs. W. Slack. Mr. Seamer, Peterborough, was third. The class for six varieties, of three blooms each, made a poor display, although there were four competitors. Mr. E. Turner was first with Mary Service, Starfish, Night, and Britannia. Mr. H. Seamer followed with Keynes' White, Mary Service, and Starfish. Mr. Aiken, Borough Green, Kent, was third. The class for twelve Cactus blooms, not more than two of a sort, with Dahlia foliage appeared to be popular, as no less than nine competitors staged. Extraordinary to relate, the first prize was awarded to a competitor who staged without foliage, though it could not be denied the blooms were far superior to any others exhibited. The varieties were Chas. Woodbridge, Mrs. J. J. Crowe, Mrs. Carter Page, Emperor, Magnificent, Night, and J. F. Hudson. Mr. R. Whittington was a good second, and Mr. E. Turner third.

New Seedling Dahlias.

The society invites exhibits of any new Cactus, decorative, Pompon, or single Dahlia for certificate; at least three blooms had to be staged with stems not less than 9 inches in length, without wire or other artificial support of any kind, in order that the committee might judge the habit of the plant and nature of the flower stem. Several Dahlias were honoured in the direction indicated, and they are enumerated below, but the varieties were in such a muddle that it was impossible to tell to whom they belonged. The greatest care was exercised to insure accuracy, but we are somewhat doubtful as to the result. Some confusion prevailed last year, and we trust that the committee will remedy the matter ere the date of another show arrives.

Adelaide (C. Turner).—A Pompon variety of soft rose purple tint (first-class certificate).

Artus (S. Mortimer).—A handsome Cactus variety; the colour is rich orange buff (first-class certificate).

Baden Powell (J. Green).—A splendid variety of the Cactus section; it is a rich dark crimson (first-class certificate).

Buttercup (J. Cheal & Sons).—The varietal name of this Pompon accurately describes the colour (first-class certificate).

Daisy (C. Turner).—A Pompon variety of good form; the colour is soft terra cotta flushed with purple (first-class certificate).

Darkest of All (J. Cheal & Sons).—This a most admirably named Pompon; the colour is intense blackish crimson (first-class certificate).

Dinorah (S. Mortimer).—The colour of this is orange buff; it is of the Cactus section (first-class certificate).

Doris (J. Cheal & Sons).—The colour of this Pompon variety is purple rose; the form is excellent (first-class certificate).

Eclipse (S. Mortimer).—A soft yellow Cactus variety of good type (first-class certificate).

Flora (J. Cheal & Sons).—This Pompon is bright brick red in colour; it is of excellent shape (first-class certificate).

Galliard (J. Burrell & Co.).—A superb Cactus variety; the colour is rich scarlet (first-class certificate).

J. Weir Fife (S. Mortimer).—A rich crimson purple variety of Cactus section (first-class certificate).

Lord Roberts (J. Stredwick).—A delicate creamy Cactus variety of good form (first-class certificate).

Purity (S. Mortimer).—This is a white Cactus variety with a creamy yellow centre (first-class certificate).

Rosine (J. Burrell & Co.).—A splendid Cactus variety; the colour is rich red with a purple suffusion (first-class certificate).

Vesta (J. Burrell & Co.).—A rich rose pink, paler in the centre; it is a Cactus variety (first-class certificate).

Zerlina (J. Cheal & Sons).—A dark crimson Pompon of good quality (first-class certificate).

Non-competitive Exhibits.

Messrs. H. Cannell & Sons, Swanley, made a grand display of Cactus Dahlias, arranged in sprays with suitable foliage, with a groundwork of Bracken, which formed a pleasing screen. Some of the best were Innovation, Col. Wilson, Exquisite, Cornucopia, Mrs. Klenwort, Magnificent, Fusilier, Sparkler, Mrs. Murray Ind, Kingfisher, and Mrs. Carter Page. Mr. J. T. West, Tower Hill, Brentwood, staged eight dozen blooms in boxes, arranged with Maidenhair Fern. The boxes contained several notable seedlings, and also the majority of the standard Cactus varieties, for which Mr. West has a reputation as a raiser. Messrs. F. Cant & Co., Braiswick Nursery, Colchester, staged superb garden Roses. Some of the best were Irene Watts, Souvenir de Thérèse Levet, L'Idéal, Papa Gontier, Robert Duncan, Sunrise, Etoile d'Or, and Marquise de Salisbury.

A collection of Plums in pots were sent by Messrs. T. Rivers & Son,

Sawbridgeworth. The trees were loaded with fruit, and the chief varieties were Monarch, Reine Victoria, Coe's Golden Drop, Admiral, Jefferson, Golden Transparent, and Transparent Gage. From Messrs. J. Laing & Sons, Forest Hill, came a large group of fruit trees in pots, and Chrysanthemums of the earlier types. These were exhibited in capital form, while the Ferns and Conifers made a capital background, the whole forming a fine exhibit. The same firm displayed a collection of Roses, hardy flowers, and Dahlias, the latter chiefly of the Cactus and Pompon types.

Messrs. J. Peed & Son, Norwood, arranged an exhibit of cut Begonias, both double and single varieties, picked from the open ground. The strains represented were undoubtedly good, the single forms being especially noteworthy. Messrs. Barr & Sons, Covent Garden, were represented by a display of Cactus Dahlias, Nymphæas in variety, and a good collection of hardy flowers, in which the Phloxes and Lilliums were most striking. Messrs. Hobbies, Ltd, Dereham, staged a grand exhibit of Cactus and Pompon Dahlias. The arrangement was good, and the blooms most satisfactory; some of the best were Zephyr, Debonnair, Mrs. Carter Page, Mrs. J. J. Crowe, Hogarth, Loyalty, Uncle Tom, Sandpiper, Radiance, Baden Powell (a beautiful variety), Green's White, Innovation, Cornucopia, and Red Rover. Messrs. A. W. Young and Co., Stevenage, exhibited an extensive display of hardy flowers with a good collection of Dahlias.



FIG. 68.—STERNBERGIA LUTEA.

Sternbergia lutea.

WHILE we have in the autumn no lack of tall growing yellow hardy flowers, we stand in need of some dwarf plants of this colour to use with the Colchicums and the autumnal-flowering Crocuses. Thus, for gardens in which it succeeds this yellow Amaryllis (see fig. 68) will be found invaluable, its bright yellow flowers rendering it very acceptable. It is unfortunate that so many of us are unable to flower this pretty bulbous plant, but it is so cheap that it is worthy of trial by all who possess gardens with favourable soil and in a warm position. The name above is that which is now generally accepted as correct, but its Linnaean name is Amaryllis lutea, under which it was figured in the "Botanical Magazine," table 290; while Dean Herbert called it Oporanthus luteus. Its popular name of Autumnal Narcissus is a little misleading, although it belongs to the same Natural Order—that of the Amaryllideæ, while the alternative

one of Yellow Amaryllis is only a little less so. The Italians call it "Giglio narciso"—the Narcissus Lily.

S. lutea was in cultivation so long ago as 1596, and is very widely distributed, being said to occur through the Mediterranean region from Spain and Algeria to Syria and Persia, so that it appears singular that so few gardens possess it. This is, no doubt, to a large extent due to its shyness of flowering in many places. The flowers are generally about 4 inches high, but are sometimes taller, while the leaves, which are produced in autumn with the flowers, eventually attain a length of about a foot. Its general flowering period is September or October, and it increases quickly by means of offsets. The best time for transplanting is June or July, before it commences to make fresh growth, *S. lutea* should have an open, sunny situation in a dry and light soil, but should be kept fairly moist. There are two recognised varieties in addition to the typical species. These are *S. sicula*, with narrower leaves and perianth segments, and *S. lutea*, var. *græca*, from the Greek mountains, with leaves only one-twelfth to one-eighth inch broad and "oblongate perianth-segments."

Lilium auratum.

THOUGH we are constantly hearing complaints as to the unsatisfactory progress made by the Golden Rayed Lily of Japan it continues to hold the enviable position of the most popular Lilium in cultivation. I have found in relation to the mysterious disease affecting this and other species from Japan that it is much more prevalent in imported bulbs than in those that have been raised, or at any rate grown, for some years in this country. Hence I have come to the conclusion that though English bulbs may be slightly higher in price at the outset they are by far the cheaper in the end. Some go off at the end of the first season, but there are several clumps in our shrubberies that have occupied the same position for a considerable period, and which flower splendidly every season. In these borders we only grow the typical form, as the more beautiful varieties appear rather weaker in constitution, and have failed in becoming established.

We do not grow a great number in pots, as the flowers give off such a peculiarly powerful fragrance that it becomes almost overpowering. We are on no account allowed to take a plant, or even a couple of flowers, into the mansion, and only two or three pots must have a place in the conservatory at one time. The favourite variety is platyphyllum, which seldom fails to give satisfactory results; it produces magnificent flowers when treated liberally. Wittei has much more delicately beautiful flowers, but we have never been able to thoroughly rely upon the results. Perhaps it would prefer other treatment from that accorded to the type, platyphyllum and rubro-vittatum, which we find immensely admired by some people and as strongly condemned by others. The flower (fig. 67, page 253), I send with these notes will, however, prove to you that it is decidedly handsome when perfectly developed. I think, popular as this Lily is, it should be more frequently met with in first-class condition than is the case at present.—F. ROWE.

THE BEE-KEEPER.

Feeding Bees.

MANY stocks will not have sufficient natural stores to last until the early spring flowers expand. If these have not already received attention, no time must be lost in providing them with artificial stores. In the case of driven bees, too, the majority of which have been placed in frame hives, no delay should take place in this important matter. All will depend on the treatment at this season whether the bees will be in good condition next spring. Syrup for autumn feeding should be made as thickly as possible, the proportion of sugar being 14 lbs. to from five to seven imperial pints of water. The quantity of water is governed by the quality of the sugar. If it is the ordinary white sugar such as may be obtained in provincial towns, which is mostly made from Beet, the former quantity should be used; if, however, granulated cane sugar of the finest quality is procured, the latter will be the correct amount.

For boiling a small quantity the vessel used should be placed over a clear fire; a paraffin or gas stove answers the purpose admirably. Allow the water to boil, and then add the sugar gradually, stirring it the whole of the time. The sugar will then dissolve rapidly, and by the time the water has boiled a couple of minutes it will be ready for removal from the fire. During the boiling process, or as soon as it is taken from the fire, a teaspoonful of salt and a tablespoonful of vinegar should be added. If boiled too long it will candy, but the vinegar will prevent this taking place if the syrup is properly prepared.

The above plan is recommended where only a few colonies of bees are kept. Those who have two or three dozen stocks will find it a great saving of labour to empty a 2 cwt. bag of sugar into a large copper and boil it all at once. This is the plan we adopt, and when working on these lines we first measure the water and place it in the copper, allowing it to boil before adding the sugar. The sugar is then gradually shaken into the copper, and kept constantly stirred. As soon as the boiling is over the fire should be drawn from under the copper. This will prevent the syrup having a burnt flavour, and will allow it to cool gradually. The whole operation will then be of short duration, and there will be no waste from evaporation or the syrup becoming too thick.

Feeding should take place early in the evening when the bees are not on the wing. There will then be no danger of robbing, and if the syrup is placed in the feeders whilst warm the bees will take it much more readily than when it is cold; a rapid feeder should be used. The feeding, however, should be regulated so as to extend over several days, as the bees will then seal it over like natural stores.—AN ENGLISH BEE-KEEPER.



Hardy Fruit Garden.

Lifting Young Trees.—During the first years after the permanent planting of Plums, Cherries, Apricots, Peaches, and Nectarines, and to some extent Apples and Pears, the wood growth has a tendency to be rapid in extension and gross in character. If these conditions continue the fruiting is retarded, hence measures should be taken to check the growth in question, not severely, but sufficiently to concentrate the energies in maturing the wood already produced. With young and portable trees this is best accomplished by lifting and replanting. The operation must be carried out carefully and expeditiously, so as not to expose the roots longer than necessary to drying influences of sun, air, and wind. It is best not to adopt this manner of checking growth if the trees cannot be conveniently handled, but to prune off the ends of the strongest roots.

The first thing is to dig a trench round the trees, or in a semicircle if against a wall. For lifting the trench should be about 2 feet from the stem, but when root-pruning, the tree being larger, not less than 3 feet will be best. Work the soil from the sides of the trench nearest to the stem or trunk, until a good bulk of fibrous roots are found, and also the large thick roots which induce the strong growth. These being severed, leaving the ends quite smooth, with a little undermining the tree may be raised having soil adhering to the roots. It is not, however, necessary to raise the ball further than to ascertain that the strong roots have been cut. Replant immediately, cutting down the soil from the sides of trench, and making it firm about the roots. Follow with a good watering, and mulch the surface with light manure. Should very dry and sunny weather follow a daily syringing will be beneficial. Shade the trees also should the foliage droop.

Plums.—Gather all the fully ripe Plums and store in a cool room. Wrap the choicest fruits of the best varieties in tissue paper. The later ripening Plums should be protected by hexagon netting, and means taken to prevent attacks from earwigs and woodlice. For the former Bean stalks cut in short lengths are the best, while woodlice are not so plentiful where the soil is maintained moist and cracks and holes in the walls kept filled up. Wall and espalier Plum trees ought not to be subjected to the closest spur pruning alone, but also have a certain amount of young wood laid in annually. With plenty of space for training upon this can be readily done, and the system affords an opportunity of laying in new wood and cutting out exhausted parts. Standard trees require little pruning. The removal of any branches that are crowded or that spoil the shape of the trees may be effected after the fruit is gathered, at the same time removing dead or partially dead wood.

Peaches and Nectarines.—*Fruit Ripening.*—The fruits ripening on outdoor wall trees must be protected. When approaching maturity the fruits are liable to fall and suffer injury. To avoid this suspend nets below. If possible gather just previously to full ripening, and finish in a cool room.

Autumn Pruning.—After the crop of fruit has been gathered, the pruning-out of much unnecessary wood may be accomplished. Doing this will admit of allowing more room for the young growths retained for future bearing and their consequent ripening. In training-in the growths of young trees permit them to extend over as much space as possible, but do not allow any overcrowding. Abundant light and air are indispensable to the full maturation of the shoots.

Watering Dry Borders.—Well-cropped trees, especially of Apples, if growing on light dry borders will require the application of water. Give to such borders a good supply, and also a liberal moistening with liquid manure. After this has been done a mulching of light manure will be beneficial in maintaining the roots in an equably moist medium.

Cleansing Trees.—*American Blight.*—This pest prevails almost exclusively on Apples, chiefly in the open on bush and standard trees. It can be considerably subdued by syringing the infested parts with soluble petroleum, 1 pint to 10 gallons of water, adding 1 lb. of softsoap. The oil will mix better with soapy water than with clear water. Neat petroleum worked into the infested parts with a half worn painter's brush destroys all the insects it touches, and softsoap rubbed in is beneficial.

Red Spider.—This pest attacks Apricots, Peaches, Nectarines, Plums, and Cherries on walls. Syringe the foliage forcibly with an insecticide after the trees are cleared of fruit. A solution of softsoap and sulphur is a reliable remedy.

Established Strawberry Beds.—Delay in clearing away runners and weeds is not conducive to the proper ripening and plumping-up of the crowns for future bearing. Detach the runners from the main plants, and hoe them and the weeds up from between the rows. Slightly point the soil with a fork, and if practicable give a good soaking of

liquid manure, after which a mulching of short and rich manure may be spread round and between the plants.

Forming New Beds.—Rooted runners from pots or obtained from between rows of fruitful plants may still be planted. Select deeply dug well prepared soil, make it firm, and plant in rows 2 to 2½ feet apart. Give a few applications of water to assist them becoming established.

Fruit Forcing.

Cucumbers.—The temperature should be maintained at 65° by night and 70° to 75° by day, with a rise of 10° to 15° from sun heat. Remove unhealthy leaves and old growths, and train the others as may be necessary. Employ the syringe sparingly, only damping the foliage on bright days, so that it may become dry before night. Damping will require to be done in the morning, and again in the evening. Pot seedlings as they become fit, and keep them near the glass to insure sturdy growth, pinching out the growing point of those required for covering low terraces at the second rough leaf; others train with a single stem, securing to a small stick, rubbing off the laterals to the extent of the stem required to reach the trellis. Be sparing with moisture to plants in pits and frames, maintaining the temperature by linings renovated as required, closing early, and employing a covering over the lights on cold nights.

Peaches and Nectarines.—*Earliest Forced Houses.*—The leaves being off or nearly so, complete rest should be aimed at by keeping the ventilators open constantly, and if the roof-lights be movable they may be withdrawn for a time. This prevents undue excitement of the buds, and has an invigorating tendency, as the trees get thoroughly cleansed of dirt, red spider, and thrips, and frosts prove destructive of brown scale, while the borders become moistened by the autumn rains. If the roof-lights cannot be removed see that there is no deficiency of water at the roots of the trees, for though the impression prevails that dryness at the roots accelerates the ripening of the wood it is fatal to the proper formation of the buds, and often gives a check, causing them to fall later. When the leaves have fallen the trees may be pruned. Only the strong growths that have not the points well matured need be cut back. In all cases be careful to shorten to a wood bud, not being deceived by a double or triple bud, as these are all sometimes blossom buds. Where ordinary attention has been given to disbudding, laying in no more wood than is necessary for the succeeding year's fruiting and for the extension of the trees, also removing fruited and other unnecessary parts after the fruit was gathered, very little pruning will be required.

Thoroughly cleanse the house, and if the trees have been infested with red spider or other insect pests dress them with an insecticide, as many, especially red spider, will secrete in the rougher portions of the bark and in the woodwork, applying the dressing with a brush. If the trees have been badly infested repeat the application before they are secured to the trellis. Remove the mulching or loose surface soil, and supply fresh loam, having a handful of some approved fertiliser sprinkled over each square yard of surface. This will be washed in either by rains or watering, and sustain the trees at blossoming time and the early stages of the fruit swelling. The partial lifting of weakly trees will be necessary, and should be done before the leaves have fallen. In the case of trees that do not ripen the wood well the roots should be carefully lifted and relaid in fresh soil near the surface.

Successional Forced Houses.—Trees from which the fruit has been gathered should have the bearing wood of the current year cut out, always excepting parts needful for extension. This will admit of the trees being thoroughly cleaned by syringing, and if necessary applying an insecticide, it being of the greatest importance that the trees retain the foliage clean and healthy until buds are thoroughly formed and properly matured. This will be increased through the assistance of more air and light. If the growths are too crowded thin them, leaving sufficient wood for next year's bearing. It is better removed now than at the winter pruning; the remaining parts are benefited, and there is less danger of inducing gumming. Ventilate freely, and afford water as required to keep the soil duly moistened to the drainage.

Late Houses.—The fruit is swelling, and liberal supplies of water are required until the ripening is well advanced, when moderate supplies will be sufficient. Trees that are making gross growths and have a tendency to lateness should be marked for lifting. A circulation of air is necessary at night, and free ventilation in the early part of the day, this being of infinitely more value than fire heat at a later period. Keep the wood thin, stop any growing shoots to about 15 inches, and all laterals to one joint as made. This will admit more light and air, which is of great importance. In case of the fruit being late sun heat may be utilised, allowing the temperature to rise to 85° or 90°, but with free ventilation in the early part of the day. Trees with the roots outside must not be neglected if dry weather prevail, and if carrying heavy crops liquid manure may be given until the fruit commences to soften. When the fruit has been gathered remove all shoots not required as extensions that have carried the crop, and if the wood is not in a satisfactory condition as to ripening, gentle fire heat with a circulation of air will be advisable, especially in the case of late varieties. The midseason kinds will ripen the wood if the autumn be favourable, but if wet and cold the trees are benefited by gentle warmth and a free circulation of air. This is necessary in cold localities, especially with the very late varieties.



•• All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense, and departmental writers are not expected to answer any letters they may receive on Gardening and Bee subjects through the post. If information be desired on any particular subject from any particular authority who may be named, endeavour will be made to obtain it by the Editor. Letters of inquiry must be accompanied by the names and addresses of the writers, but these will neither be published nor disclosed when initials or *noms de plume* are given for the purpose of replies.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and it is convenient when each question is written on a separate sheet. All articles intended for insertion should be written on one side of the paper only; and the name and address of each writer must be known by the Editor, though not necessarily for insertion. We cannot, as a rule, reply to questions through the post, and we do not undertake to return communications which, for any reason, cannot be inserted.

Euphorbia splendens (J. C. R.).—This plant is of easy culture, requiring a stove temperature and a soil of fibrous loam and sand, with a small proportion of lime rubbish. The pots should be well drained, as any stagnant moisture is especially injurious to the plants. When the plants are growing freely water may be liberally supplied, liquid manure being also beneficial occasionally. Although succeeding well in pots, this Euphorbia is more useful if planted in a border against a wall in the stove, when flowers will be freely produced, during a considerable portion of the year.

Gloriosa superba (N. N.).—The soil best adapted for them is a mixture of fibrous peat, light loam, good leaf mould, well decomposed manure, and silver sand in equal parts. After potting they will not, if the soil is in good order, require water until they show their growth; after this a good moist heat is necessary, and care must be taken to keep red spider and thrips from them. Weak liquid manure applied occasionally will be found to assist them very much, and they must be trained up the rafters, or upon a trellis, as they grow, or the tendrils with which each leaf is furnished at the apex will become so firmly fixed to other plants that it will be impossible to remove them without injury.

Culture of Erythras (Amateur).—Erythras may be kept all the winter in any kind of place where frost does not penetrate; after they are started in spring may be wholly grown outside, and only removed to the greenhouse as they come into flower. They are remarkably profuse flowering plants, and their wants are few. A mixture of loam and leaf soil, with a good dash of sand and a few pieces of charcoal, suits them admirably. An annual potting just as they start will be sufficient for ordinarily large plants, and an annual pruning—which consists in cutting off all the summer's growth down to the rim of the pot—coupled with such treatment as we have hinted at, will insure success. We advise a little heat for starting them in, though, because they start more regularly than if left outside. If put in a warm temperature we advise careful hardening and placing outside early in June, and their removal inside when the first flowers show themselves. After they are cut down they should be kept rather dry and away from frost.

Treatment of Pines (Novice).—You must exercise the greatest care with your plants to prevent the foliage becoming soft and drawn, as the sun's heat is waning, and air cannot be so freely admitted without having recourse to artificial heat. This is absolutely essential in the case of plants in an exuberant condition, which should have air at 80°, above which ventilate freely, especially on warm sunny days, with a view to consolidating the growths, and close the house for the day at 80°. The bottom heat should be kept steady at 85°, or between 80° and 90°, and the plants will not suffer any check provided the ventilation be judicious and the treatment liberal and proper in other respects. The night temperature should be maintained at 65°, and 70° to 75° secured by artificial means in the daytime, effecting a change of air daily, even in dull weather, by a little top ventilation. Syringing will only be needed occasionally, and it should be done on the afternoons of bright days. Water must be given when absolutely necessary, then afford an abundant supply of weak liquid manure in a tepid state.

Mushroom Beds under Cover (A. L. M.).—You may form the beds at once. They should be nearly or quite flat, a gentle slope to the front being usually given, of any convenient width, and from 12 inches to 15 inches in depth. They can be enclosed either by walls or stout boards kept in position by means of strong uprights, and preferably be formed on the floor. Horses in hard work, and fed on hay and corn, afford the most suitable droppings for making into Mushroom beds. No fire heat ought to be turned on for some time to come, the best crops very frequently being had from the beds in snug unheated sheds and cellars.

Anemone polyanthes (F. O. M.).—This fine Anemone grows about a foot to 18 inches in height, with a wealth of fine ornamental foliage. The flowers are produced in bunches of from six to eighteen, umbel fashion, on longish scapes. The blooms are rarely less than an inch in diameter, pure white, firm textured, and lasting a considerable time in a cut state. It loves shade and plenty of moisture in rather a heavy but rich soil. The leaves are deciduous; the crown, though exposed, requiring no protection, as it is found at altitudes of from 10,000 to 12,000 feet above sea level from Kashmir to Sikkim, flowering during the early summer. An illustration of *A. polyanthes* appeared in the *Journal of Horticulture*, March 19th, 1896, page 259.

White Pinks for Early Spring (P. W. S.).—No time should now be lost in inserting cuttings of the old White Pink for forcing. When forced in early spring the flowers are always appreciated by those who love sweet flowers and old favourites. It is necessary to be careful in the propagation, and allow a portion of old wood on the base of each cutting. Insert in loam and sand in 3-inch pots a number of strong growths, say eight or nine, and place the pots in a cold frame. Water when first put in, shade from the sun when hot, and do not attempt to keep the frame close. These directions followed, the grower will find that nearly every cutting will root, and from each potful of cuttings eight or nine flowers will be produced in early spring.

Mealy Bug on Vines (P. F. G.).—Little can be done at present in eradicating this pest other than preventing the insects getting amongst the berries. This can be sometimes prevented by tying a small piece of cotton wool on the stem of each bunch, and placing a circular piece of soft cardboard or brown paper on the top of the berries. This will prevent any insects falling from the foliage into the bunches. As soon as the Vines are pruned in winter steps to eradicate the pest must be taken. First remove the prunings, decayed leaves, and rubbish from the house and burn them; then rub off all loose bark on the Vines, but do not peel the rods, and remove this also, together with an inch of the surface soil if the border is inside. This done, make a solution of soft-soap, 4 ozs. of soap to a gallon of boiling water, to which half a wine-glassful of paraffin may be added, and when cool wash the rods thoroughly with this, taking care not to miss any crevices around the side shoots. This done, make a similar solution, but add 4 ozs. of flowers of sulphur and sufficient clay to make the whole of the consistency of paint. With this the Vines may be painted, applying the mixture with an ordinary painter's brush. Previous to painting the Vines, however, it would be advisable to remove all other plants from the house, and give the woodwork and glass a good washing.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless *A. ples* and *Pears* sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (R. F.).—1, Reinette Grise; 2, Lady Sudeley; 3, Beauty of Bath; 4, Lord Grosvenor; 5, Lord Suffield. (C. S. R.).—1, Benoni; 2, Emperor Alexander; 3, Red Astrachan; 4, Williams' Bon Chrétien; 5, Jargonelle; 6, Beurré d'Amanlis. (S. B.).—1, Devonshire Quarrenden; 2, Lord Suffield; 3, Cellini; 4, Kerry Pippin. (H. S.).—1, Gravenstein; 2, Mère de Ménage; 3, Cox's Pomona. (O. G. M.).—1, Fearn's Pippin; 2, Cox's Pomona; 3, Gloria Mundi; 4, Lemon Pippin; 5, Greenup's Pippin; 6, unknown and worthless. (J. S. N.).—The Plum more nearly resembles Belgian Purple than any other with which we are familiar. (W. B. Buckworth).—1, Crimson Queen; 2, Dutch Mignonne. (W. B.).—1, Stubbard; 2, Cellini; 3, Cox's Pomona; 4, The Queen; 5, Sugarloaf.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (L. B.).—1, *Cypripedium Godefroyae leucochilum*; 2, *Crinum Moorei*. (C. P.).—1, *Crataegus pyracantha*; 2, *Ceanothus rigidus*; 3, *Viburnum opulus*; 4, *Escallonia macrantha*. (S. A. R.).—1, *Veronica longifolia subsessilis*; 2, *Leycesteria formosa*; 3, *Helianthus rigidus*, very fine pale coloured variety; 4, *Sidalcea candida*. (D. H. A.).—Send specimens of your Zonal Pelargoniums to Messrs. H. Cannell & Sons, Swanley, Kent, who will name them by comparison in their unique collection; they will have to be properly packed and each pip carefully gummed, or they will not travel. (J. C. S.).—With only leaf with the flower (and the leaves of these plants vary) we can only suggest that your specimen is *Ranunculus Lenormandi*.

Covent Garden Market.—Sept. 12th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bushel ...	2 0	to 3 0	Nectarines, doz. ...	1 6	to 9 0
" cooking, bushel ...	1 6	3 0	Oranges, case ...	10 0	15 0
Cobnuts, doz. lb., best ...	4 0	5 0	Peaches, doz. small ...	1 0	2 0
Damsons, $\frac{1}{2}$ bushel ...	0 9	1 0	" doz., good size ...	6 0	9 0
Figs, green, doz. ...	1 6	3 0	Pears, per case of 36 ...	0 0	2 9
Grapes, black ...	0 6	2 6	" " 48 ...	2 9	3 0
" white ...	1 6	3 0	" " 56 ...	2 0	2 8
Greengages, sieve ...	4 6	6 0	Pines, St. Michael's, each ...	3 0	6 0
Lemons, case ...	10 0	20 0	Plums, $\frac{1}{2}$ bushel ...	1 0	2 6
Melons, house, each ...	0 6	1 6	" Californian, case ...	4 0	6 0
" water, case ...	3 6	5 0	" common, sieve ...	0 6	1 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	to 2 0	Leeks, bunch ...	0 1	$\frac{1}{2}$ to 0 6
Beans, French, sieve ...	2 0	3 0	Mint, green, doz. bunches ...	2 0	0 0
" scarlet, bushel ...	1 6	2 6	Mushrooms, lb. ...	1 3	1 6
Beet, red, doz. ...	0 6	0 0	Mustard and Cress, punnet ...	0 2	0 0
Cabbages, tally ...	3 0	5 0	Onions, Dutch, bag ...	4 0	4 6
Carrots, doz. bunches ...	2 0	3 0	Parsley, doz. bunches ...	2 0	0 0
Cauliflowers, doz. ...	1 0	3 0	Peas, English, bushel ...	5 0	6 0
Celery, bundle ...	1 0	1 9	Potatoes, cwt. ...	3 0	5 0
Cucumbers, doz. ...	1 6	3 0	Shallots, lb. ...	0 2	0 3
En live, score ...	1 6	0 0	Spinach, bushel ...	2 0	0 0
Herbs, bunch ...	0 2	0 0	Tomatoes, English, lb. ...	0 2	0 4
Lettuce, doz. ...	0 9	0 0	Turnips, doz. ...	2 0	3 0
" Cos, score ...	0 6	2 0	Vegetable Marrows, doz. ...	0 6	1 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	1 6	to 2 0	Lily of the Valley, 12 bun. ...	15 0	to 18 0
Asters ...	3 0	4 0	Marguerites, doz. bnchs. ...	2 0	4 0
Carnations, 12 blooms ...	1 0	2 0	" Yellow doz. bnchs. ...	2 0	4 0
Cattleyas, doz. ...	6 0	12 0	Odontoglossums ...	3 0	4 0
Eucharis, doz. ...	1 6	2 6	Pelargoniums, doz. bnchs. ...	4 0	6 0
Gardenias, doz. ...	1 0	2 0	Roses (indoor), doz. ...	2 0	4 0
Geranium, scarlet, doz. bnchs. ...	4 0	5 0	" Red, doz. ...	1 0	2 0
Glaudiolus, doz. spikes ...	1 0	2 0	" Safrano, doz. ...	1 6	2 0
Lilium lancifolium album ...	1 6	2 6	" Tea, white, doz. ...	1 0	3 0
" rubrum ...	1 6	2 6	" Yellow, doz. (Perles) ...	1 0	2 6
" various ...	2 0	3 0	" English:—		
Maidenhair Fern, dozen bunches ...	2 0	4 0	" La France, doz. ...	1 0	2 0
			Smilax, bunch ...	2 0	4 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	to 24 0	Foliage plants, var., each ...	1 0	to 5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	" pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each ...	2 6	5 0
Azaleas, various, each ...	2 6	5 0	" pink, doz. ...	12 0	15 0
Bononias, doz. ...	20 0	24 0	" paniculata, each ...	1 0	3 6
Cannas, doz. ...	18 0	0 0	Lilium Harrisii, doz. ...	8 0	18 0
Orotons, doz. ...	18 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	8 0	12 0
Erica various, doz. ...	8 0	18 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
Ferns, var., doz. ...	4 0	18 0	Roses, doz. ...	6 0	18 0
" small, 100 ...	4 0	8 0	Stocks, doz. ...	8 0	12 0
Ficus elastica, each ...	1 6	7 6			

Trade Catalogues Received.

Barr & Sons, King Street, Covent Garden.—*General Bulbs, Daffodils.*
 Biddles & Co., Loughborough.—*Bulbs and Plants.*
 G. Bunyard & Co., Maidstone.—*Fruit Trees.*
 A. Chatwin, WHEELLEYS ROAD, Edgbaston.—*Picotees and Carnations.*
 W. Cutbush & Son, Highgate.—*Carnations.*
 J. Davies & Co., Wavertree, Liverpool.—*Bulbs.*
 Dicksons & Co., 1, Waterloo Place, Edinburgh.—*Flower Roots.*
 Fromow & Sons, Chiswick.—*Bulbs.*
 Pope & Sons, Birmingham.—*Bulbs.*
 R. Prince, Belvoir Street, Leicester.—*Bulbs.*
 A. Roozen & Sons, Overveen, Haarlem.—*Cape and Dutch Bulbs.*
 B. Soddy, Walworth Road, London.—*Bulbous Flower Roots.*
 R. Veitch & Son, Exeter.—*Hardy Trees, Shrubs, Fruit Trees, Dutch Bulbs.*



The Pestilence that Walketh in Darkness.

THE unknown is always dreaded; what we can see and handle is not half so alarming, be it ever so strange. Our ignorance makes us terrified; we feel so helpless when we cannot assign a cause or suggest a remedy—Pandora's box without hope at the bottom. There have been times of dread illness attacking the human race, against which that race could make no stand whatever. True, the savants of the day were ready with potion and spell, but, alas! the potion was harmless, the spell powerless. Life for life, and when it comes to be a question of life or death it is wonderful what an impetus is given to sanitary science.

There are always, and always have been, men among us endowed by Providence with grand mental powers, and these men have been found ready and willing even to lay down their lives, if by means of their research some practical remedy may be found which will prove of benefit to their fellow men. Medical science is ever advancing, and with it a true regard to the laws of proper sanitation, and we are glad now to think that some time past great attention has been paid to the further development of veterinary science. Will Professors Brown and Mac'adzean be very irate if we dare to suggest that their branch of science is yet in its infancy?

When a patient can describe his own sensations and speak clearly and decidedly of the result of the remedies the doctor's way is in a great measure cleared, but in the case of animals it is quite different. An animal may be certainly ailing, but it is for the "vet" to declare how, why, and where, and his difficulties are increased tenfold. It is so often like working in the dark with little or nothing for a guide. The previous history of the animal (if lately imported on to the farm) is so bad to get at, nay, almost impossible, and for fear of blame the men in charge are so chary of telling all they know. There have been many and many a case of mysterious ailment that might have been made quite clear if only the yard man or the horse boy would admit how far he has gone himself in amateur doctoring. But of late years we have met with a disease so terrible in its nature and so certainly fatal in its action, and that quickly, and with the disease comes no palliation in the form of remedies.

All at present appears perfectly hopeless; we speak of anthrax. The cases are not few or isolated, nor are they confined to one class of domestic animal; indeed, we fear in many cases man, too, may be liable to its ravages. See those cases constantly reported where wool sorters and the like die from a species of this disease contracted from contaminated fleeces or hides.

Only just before Christmas, within six miles of our residence, a farmer lost in two, or at most three, days twenty-three beasts out of a herd of forty; the rest were slaughtered, and we suppose he would receive part compensation. All the talent (veterinary) of the neighbourhood assembled, and the deceased animals were so disposed of with a view to secure immunity to the rest of the stock; in fact, we believe one, if not two, Government inspectors were down, and no pains were spared to render assurance doubly sure. But after all these precautions we find that during the first week of February there were several distinct and well-defined cases among the pigs on this same farm.

The cattle attacked had never been brought up from the field, had been many months on the farm, and could by no possibility have come in contact with the pigs. When will that man and his stock be safe? Who can tell?

A few years ago there was a similar outbreak on the farm of a

friend—the victims numbered seventy head. We have personal acquaintance with many similar cases, and our experience is only the experience of other farmers. As the life is in the blood, so the disease is in the blood, and it is most essential that no blood be allowed to escape on any account whatever. The bacilli of anthrax will speedily die if confined within the carcase, but multiplies rapidly if exposed to sun and air.

This disease comes with such suddenness that the first intimation of anything wrong is the dead body of an animal which apparently was in the best of health only a few hours previously. When this occurs it is always well to be on the alert. Fetch the nearest "vet." and let him take a few drops of blood from the ear, and if he is up to his work he will be able at once to say whether the blood is infected with the anthrax bacilli. Close the nostrils and other openings with tow soaked in carbolic, and bury in an out of the way situation with all the disinfectant ceremony enjoined by the local authority.

On no account open or skin; treat the carcase as a deadly thing, for your own sake as well as for the sake of the rest of the stock. This bacilli will find its way into the systems of other stock wherever there is a cut or small sore, or may be taken into the stomach by means of infected food or water. Take the healthy herd to fresh pasture or yards at once, change food and water, and carefully watch for seven days, when generally all danger of infection will be over. There is no chance of saving the once-infected animal. All that can be done is to treat his body so that it shall not be a source of danger to others. If it were possible, there is no cleanser or purifier like fire; in lieu of fire strong chemicals must be substituted. The greatest care should be taken to see that no one who comes in contact with the diseased body should have a sore or wound on any part of his person. Prevention is better than cure, and the death from anthrax poison is a fearful one.

No one yet has ascertained the true cause of this pestilence, and till the cause is come at there can be little or no hope of cure. The outbreaks are ruled by no cause that we can fathom, and therefore our helplessness. Fat stock, lean stock—young or old—all appear to be equally liable; and cases occur in isolated districts, where no fresh animals have been imported for years. It was an old fallacy that high feeding of a too forcing nature rendered stock more liable; but what of young stock which have only been kept in growing condition, for the scourge falls on them too? All we can say is—if sudden death occurs be suspicious, and use those precautions that are advised when a deadly plague is abroad.

Work on the Home Farm.

The corn harvest is, practically speaking, safe in the stack, very few bits being now visible in stook; remarkable progress has been made since the typically September weather set in, but this expedition is, we are sorry to say, partly owing to the light bulk of many of the crops. No! The harvest of 1900 can hardly turn out to have been an average one, for stacks are not only fewer in number but smaller than usual.

The spare hands that can thatch are thus usefully employed, and all catchpenny men are being retained as far as possible to help with the Potato harvest, which will commence very shortly. It is many years since the haulm died off so early and suddenly as it has done this season. This premature ripening must greatly affect the yield, for the crop generally was planted later than usual, and thousands of acres have stopped their growth at such an immature stage that there will be few tubers of a size suitable for market. Growers are very anxious as to the disease showing itself in the tubers. It has done so to a very slight extent as yet, and it is to be hoped that this cool dry weather may allay the virulence of the epidemic.

The clearing away of the crops has made way for the spring cultivator, which is now so universally used. The bad old system of ploughing or, rather, lightly skimming over the Wheat stubbles immediately after harvest, thus cutting up any roots of twitch each into four or five small portions, has quite gone out of fashion. It is very seldom we see a plough nowadays at work on uncultivated stubble, and we hope never to see it again. Should the fine weather continue until Michaelmas, by diligent use of the cultivator not an atom of live twitch or conch should be left to form the nucleus of a fresh patch.

It is in autumn cultivation that these valuable implements should find their chief rôle, and if farmers were also sufficiently particular as to the cleanliness of the Clovers and Grass seeds they use for their temporary pastures the years of foul rubbishy crops should be shortly numbered. There can be no true economy of labour on a farm that is not in a clean condition as regards the absence of ordinary farm weeds.

A few heavy dews have done the lambs a little harm, and they are inclined to cough again. Care must be exercised to keep them off rank fog until it has got moderately dried, and when very frothy, if the use of it cannot be avoided, the lambs must have only a limited quantity—that is, be only kept on the meat for a short time, and it is a good plan to cake them just before putting them on, as it prevents them eating so greedily. Every change of pasture should now be made use of, even worked stubbles, for there are many pickings round the hedgesides, Bramble leaves especially being eagerly eaten by sheep, and they are an excellent tonic.

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Journal of Horticulture.

THURSDAY, SEPTEMBER 20, 1900.

Bulbs in Pots.



THE immense value of the so-called Dutch bulbs for creating a bright and beautiful display during the early months in the year has long been acknowledged, indeed it becomes more and more apparent every year, as the numbers grow by leaps and bounds. Where at one time it was the comparatively few who professed to grow these bulbous plants, it is everyone who has from one to two dozens up to thousands in pots, boxes, glasses, and lastly in the open ground. The more the better, however, for if the Hyacinth may be a little stiff and formal, it is nevertheless a noble flower, while our Narcissi, Tulips, Crocuses, Snowdrops, and others are quite indispensable.

From the present time to the end of the month will usually be found the busiest in gardens with the potting of bulbs for spring use, and for the bulk of the collection it is an extremely favourable period to choose. Many, such for example as Roman Hyacinths, were potted several weeks ago, and have made a decided advance towards flowering from November onwards, but the bulk still remain to be dealt with at the moment. We do not want them at Christmas, they are not then accorded that appreciation that will inevitably be their lot at a later period of the year, hence for that festive season the "Romans" and the "Paper Whites" are the only ones that I strive to have in abundance. Not that we have the whole of our stock in bloom at one time; by no means, as we should regard it as too great a waste of valuable material, and the season is therefore extended to as great a length as possible.

It is obvious that to a large degree the period of flowering will be governed by the time of potting, which is therefore done successionally

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from the earliest date on which we can get a delivery of "Romans" to the end of October. Many persons pot considerably later than this, but I cannot see that it is advantageous. Certainly the bulbs have then been from the ground for an unnatural period, and some of their stored-up energy is being expended upon the commencing growth, and the more this is allowed to proceed the more will the flower be prejudiced in its development. One can always advance or retard a dozen pots or more according to demands, and it is much better practice than keeping the bulbs from the soil for an unwarrantable time.

Broadly speaking, all the bulbs that come to us from the Channel Islands and Holland at this period of the year require similar treatment; there may be, and of course are, differences of detail which will occur to the experienced mind, but they are sufficiently insignificant for us to pass them over with the merest glance. The principal variations lie in the time of potting, the period of plunging, and the subsequent methods of procedure. Of these the plunging is the most important item, as it frequently spells the difference between success and failure, more especially amongst the comparatively inexperienced.

It may therefore be taken that the remarks made and about to be made cover the widest possible ground. More importance is attached by some cultivators to the soil than I consider essential. It will be found by experiments conducted over a series of years, that provided an open compost of some heart is provided, the success will be quite as great as where an elaborate mixture has been prepared. As a matter of fact I consider it a distinct disadvantage to add artificial manures to soil for these plants, as they are apt to force on top growth at the expense of root growth; and again there is danger that the tender roots may be scorched by contact. A little soot is all I favour in this direction, and one can scarcely see the smallest difference between those in soil containing soot and those having none. Three parts of good loam, one part of decomposed leaf mould, a proportion of the coarsest sand varying in amount with the texture of the loam, and a few pieces of charcoal form an ideal mixture; but I have many times had to be content with a much inferior soil and still have had fairly satisfactory results.

To make up for the omission of special food from the compost I believe in a course of dieting as the plants swell up the spike. This, I believe to be the most generally satisfactory. When the bulbs have become thoroughly well rooted, and the spike can be seen forcing its way upwards, the dietary is commenced, and it is varied to the utmost limit. Soot, guano, natural manure, especially that from cows, and any special mixture, are all given an occasional turn, and the same one is never employed twice in succession. Let it be very weak, is the order of the day, and one may see the plants revel in the fare that is provided for them. Just as the plants attain to full development I sometimes give a little nitrate of soda, but it is not an unmixed blessing, as I have proved to my cost.

In another respect I think some of us err, and that is in choosing for Hyacinths a pot of too large a size. Except perhaps for the very largest bulbs like Grand Maître, I think a 54 or even a 60-pot quite big enough. There is not room for much soil, especially as the drainage must of necessity be perfect, but it is quite sufficient, as the feeding is to be done at a subsequent date. The smaller the bulk of soil the greater the need for perfect drainage and porosity, for if it become sour through stagnation failure will inevitably accrue. In the use of 48 and 32-pots we provide accommodation for more bulbs, and with from three to five in a pot the effect, if they are well grown, is always excellent. Tulips I find appreciate rather more abundant supplies of water than Hyacinths and the majority of other bulbs.

Brief reference was made in an earlier paragraph to the plunging after potting, which is rightly considered a very important operation. As a matter of fact, it calls for more judgment than perhaps any other individual detail of bulb culture. If the pots remain plunged too long the top growth becomes more or less drawn, while if the

period is curtailed and the pots are brought into the light too soon top growth is made at the expense of root growth, and there is some danger of partial or total collapse at a later period. I hope to continue my remarks on this subject at an early date.—F. ROWE.

Renovating Fruit Trees.

MANY fruit trees which are not of good shape, and bear indifferent fruit, or possibly none at all, may be in this condition because they are growing too closely together, the heads of each tree also being densely crowded. Standard, bush, and pyramid trees may all be found in this condition, brought about by errors in planting thickly, and neglecting to prune the trees from year to year. Should they have become old and worthless it is not advisable to retain them. Especially is this the case if the trunks and stems are cankered, overrun with moss and lichen, and infested with American blight. Though great improvements may be effected in trees which are in this state, it is a question whether they are worth the trouble, seeing that thrifty and vigorous young trees of approved varieties may be obtained and planted, and which in a few years will prove remunerative.

Having decided what form renovation is to take let the work be done thoroughly. Trees that are to be entirely removed should be grubbed up, and the trunks, branches, as well as roots, burned. Planting trees on a fresh site is the best plan, but as this is not always practicable, the existing position should be made the best of. The ground can only be rendered fit for planting fresh trees upon by trenching two spits deep, breaking up the bottom spit, and mixing with the top, so as not to entirely reverse the two layers of soil. In heavy soils some lightening material ought to be added to improve it. This may consist of road scrapings, pulverised mortar rubbish, and burnt refuse. To light soils which need stiffening, add clay marl or chalk, any of which is best if broken down finely. It may be necessary to add manure if the soil is very poor, but it must be well decomposed, worked freely with the staple soil, and not too liberally applied. Of course the ground is all the better if it can lay a year, taking a root crop from it during that time. If this is done it may be more heavily manured, as the effects of a liberal dressing will be spent by the time the fruit trees should be planted. This, however, is not necessary if the soil is of a fairly fertile character, and is not dried and exhausted to an undue extent. In the process of trenching the roots of the old trees must be worked out, also the roots of perennial weeds such as Bearbind, Ground Ivy, and Twitch or Couch Grass, Docks and Dandelions. These are troublesome and persistent growing weeds which are a nuisance in a fruit garden.

The process of renovating a plantation of crowded trees is first to thin out the trees themselves if the heads are growing into one another. Much is lost by allowing the trees to stand too close, as the proper extension of each is prevented. In thinning the heads take out the central parts, cross branches, and all dead wood, as well as weakly growths wherever situated. Leave the free growing and healthy branches in such a manner as to produce a well balanced and regulated tree, through which light and air can penetrate, and the sunshine pass between the branches to the soil.

Restricted bush and pyramid-shaped trees require the branches reduced in number if they are more than ordinarily thickly placed. When well furnished with spurs they soon become crowded, hence it is desirable they should be freely thinned so as to admit light and air to the spur clusters. The latter may be crowded or elongated, and need some attention in thinning and shortening back. Branches removed should be cut back to their origin, and not shortened.

The treatment of wall trees is on similar lines. Too many cordons or branches are laid in which owing to the extension of spurs become crowded. Fan-trained trees can be readily regulated. New growths may be trained in from the base of the older branches, while the unsuitable ones may be cut out.—E. BARROW.

*Cypripedium Cyris.*

It is impossible for us to say how many species, hybrids and varieties of *Cypripediums* are in cultivation, as there may be hundreds that have never been publicly exhibited. Neither can we give you the dates on which special awards have been made to what you describe as the "choicest sorts." *Cypripedium Cyris* (fig. 69), of which you make special mention, received a first-class certificate from the Royal Horticultural Society in the year 1895, when it was exhibited by Mr. Norman C. Cookson, Wylam-on-Tyne. It is a hybrid resulting from a cross between *C. villosum* Boxalli atratum and *C. Argus*. The dorsal sepals and petals are large, white and green, heavily spotted with brown in colour; the lip is brown and green. This is in reply to "P. B. D."

Cultural Notes.

EVERY month in the year brings its own special work in the Orchid houses, and though the present is not a particularly interesting time with regard to flowers or a busy one in cultural details, yet it is a season when the grower needs to be on the alert. Many plants are just finishing their growth for the season; many others are in the middle of their growths, while a few are perhaps due to finish, but owing to circumstances, are not as forward as they should be. In addition to these there are other plants that commence to grow at this end of the season; they are few, but they must be attended to if all are to be kept in the best condition.

Taking first of all the sorts that have completed their growth or nearly so. One set of plants presses prominently into notice at this time; the deciduous *Dendrobiums*. They are perhaps the most showy and generally useful of all spring flowering Orchids, and quite indispensable. Unfortunately a number of them are not so amenable to cultural methods as one might wish, and no matter how carefully they are grown it is apparently impossible to keep them in health in our Orchid houses for many years. On the other hand there are a number of charming kinds that increase and improve under cultivation.

Among these it is to be hoped that the splendid hybrid forms raised by crossing the best species may be reckoned. Many of these have now been in cultivation for a number of years, and despite the rapidity with which they have been propagated they show no signs of failure or decreasing vigour. But this is a digression, and it is well to note that whatever kinds we are growing, whether easy to cultivate or "miffy," as growers term it, the more closely it is looked after the more likely it is to flourish.

Just now the one thought will be to ripen or consolidate the growth. Without this preparation it is useless to expect flowers in plenty or of high quality. But all the plants will not be ready at once, and it is just as unsatisfactory to ripen the growth of a *Dendrobium* prematurely as it is to roast a Peach or a Fig shoot before the growth is properly finished. Here is where the difference between a watchful and a careless cultivator comes in. The one

takes notice of every plant individually; when it is ready for removal to a drier and lighter house for the ripening process he takes it there. The other takes the plants in batches, some ready to go and some not. It is hardly necessary to say which is right or which obtains the better results.

Plants that are late for any reason, such as having been kept back for flowering late, should be given a place in the warmest and lightest house at command, but where plenty of atmospheric moisture is kept up. It is often more convenient where there is a *Dendrobium* house to alter the temperature and conditions to suit the majority, or those that are ripening off, and remove the few that are still growing to the more suitable atmosphere mentioned.

There are a few plants, such for instance as *D. chrysanthum*, that usually begin to grow just now. It is not wise to over-excite these, but the house in which they are grown must be sufficiently humid and light to insure their not being checked. Where *Phalaenopsis* are cultivated the house will be found suitable for this class of *Dendrobium*. Speaking of *Phalaenopsis*, although the plants in this fine genus do not require the same amount of hardening or ripening as do pseudo-

bulbous species generally, yet a distinct difference must be made in the atmosphere now. Where, by keeping up exciting conditions in autumn, the leaves are soft and green on the approach of winter there is sure to be trouble in spring from leaf-dropping, large and apparently healthy leaves dropping through being loose at the axils. It does not take much of this kind of thing to ruin a fine specimen of any of these lovely Moth Orchids, so it is wise to see that the texture of the foliage is so consolidated by due exposure to light and air now that it is able to withstand any slight check that may be caused in winter. All the distichous leaved section in short are better for this slight hardening in the autumn. They are not so sensitive to checks as are the Moth Orchids, but *Aërides*, *Saccolabiums*, *Angraecums*, and the rest will all be found to flower more freely when looked after in this respect. *Cattleyas* are as varied in their likes as *Dendrobiums*, and though there is not space here to mention species, it will be found that here, and in other large genera, a system of looking closely after individual species is preferable to collective methods. —H. R. R.

Cattleya guttata.

ALTHOUGH the individual flowers of this species lack the size of the various *Cattleyas* of the labiata section, they are nevertheless very useful and beautiful. It is one of the taller growing species, frequently attaining a height of 2 feet or more, strong and vigorous in habit, and one of the easiest of *Cattleyas*

to manage. The pseudo-bulbs bear a pair of thick, dark green leaves, and from the apices of these the flower spikes are produced. Strong spikes bear eight or ten flowers, each about 4 inches in diameter; the sepals and petals are greenish yellow with red spots, the side lobes of the lips are white, folding over the column, the frontal portion dark rose.

The variety *Leopoldi* is far superior to the type, being very richly coloured. The sepals and petals are chocolate, velvety in appearance, and profusely spotted with dark crimson; the labellum is also deeper in colour than that of the type. This is now generally known as *C. Leopoldi*. *C. guttata* and its varieties thrive in a compost consisting of equal parts of peat fibre and sphagnum, with a little charcoal and potsherds added. Care is necessary that no water lodges in the apex of the young growth or about the bases of the pseudo-bulbs in the spring.—ORCHIDIST.



FIG. 69.—CYPRIPEDIUM CYRIS.

Coniferae.

(Continued from page 175.)

CLIMATE, soil, and situation have a great influence upon the growth of Conifers, and as a rule they grow best where the rainfall is greatest, provided the temperature is suitable. The branches of the Fir and Pine tribes are in whorls—that is to say, they are produced around the trunk in every direction in tiers. These tiers, or whorls, are not always complete; from some cause or another branches are not produced in regular order round the stem. In some cases they are very irregular, especially in trees that grow very rapidly. I have frequently noticed this among the common and the Douglas Spruce. Smaller branches are also often formed between the whorls, but are generally weaker in growth. The distance between each tier of branches will show the height the stem has made in successive seasons; hence where the whorls are all present from the base to the summit a rough approximation of the age of the tree can be arrived at. The height of many trees are out of all proportion to the spread of their branches, and the latter rarely attain a timber-like size. In the case of the Yews and the Cedar of Lebanon we have exceptions.

In the Fir and Pine tribes the branches are generally horizontal in their young state, but as they increase in age they often assume a drooping habit. Very often the branches are quite flat; this is due to the branchlets, or secondary branches, ramifying from the side of the main branches only. Good examples are seen in *Abies grandis* and other Silver Firs. In the *Retinosporas*, *Cypresses*, and *Junipers*, the branches are produced in a more irregular manner, giving the tree a denser or bushy habit. A few varieties have almost erect branches, such as the Irish Yew, Irish Juniper, and *Cupressus Lawsoniana erecta viridis*.

There is great diversity of form and arrangement in the leaves, and they are all persistent, with the exception of *Ginkgo biloba*, deciduous *Cypress*, and the Larch. In some of the Pines the leaves remain on the trees several years, and the Monkey's Puzzle, *Araucaria imbricata*, is said to retain its foliage from ten to fifteen years. The leaves are mostly linear, needle-like or lanceolate, sometimes very long, as in the Austrian or Corsican Pines, in some species exceeding even a foot in length; in others, such as the Cedars and Larch, they are short and pointed. In *Abies* they are flat, in some cases sharply pointed, in others the ends of the leaves are rounded, as in *A. canadensis*. In most cases they are distichous—that is, arranged in two rows—or pectinate, toothed like a comb. It is this arrangement of the leaves that gives the flat appearance to the branches that we see in the Silver Firs, Hemlock Firs, and the common Yews. In the Spruce Fir, *Cryptomeria*, *Wellingtonia*, and some others the leaves are not so formally arranged, but are scattered over the branches or spirally arranged round them. In *Cedrus* and *Larix* the leaves are in bundles.

The flowers of Coniferous plants are inconspicuous, and often unnoticed by the casual observer, as they are without the beautiful colours seen in plants belonging to the higher orders. A complete flower is one in which we find the calyx or outer covering of the flower, which is very often of a green colour; the corolla or floral leaves which give beauty to the flower, owing to their bright and often beautiful colours; and the essential organs contained within these two coverings, which are termed the stamens and pistils. In the *Coniferae*, however, we find a different arrangement, the flowers being destitute of both calyx and corolla. Not only so, but the ovules or rudimentary seeds, which in the higher orders are enclosed in an ovary, are in coniferous plants naked. When fertilisation takes place the pollen, instead of falling upon the stigma and working its way down the style to the ovary and fertilising the ovules, falls direct upon the ovule.

The flowers are monœcious—that is, the male and female catkins are both found on the same plant; or diœcious, where the male catkins are found on one plant, and the female on a different plant. The former are represented by the Fir and Pine tribe, and the latter by the Juniper and Yew. The cones or fruit are not very showy in a general way, although there are some exceptions to this rule; nevertheless they are highly interesting, varying greatly in their size and shape, also in texture and durability. The cones of the Californian Sugar Pine, *P. Lambertiana*, are nearly 2 feet in length; a single cone of *Pinus macrocarpa* weighs from 4 to 5 lbs., and those of one of the *Araucarias* is said to grow almost as large as a man's head. Amongst

the *Retinosporas* are some that bear cones less than half an inch long, and it takes several cones of the common Hemlock Spruce to weigh an ounce—*PINUS*. (To be continued.)

Notes from Barford Hill.

DURING a recent visit to the well-kept gardens of C. A. Smith-Ryland, Esq., I was particularly struck with the fine crops of Apples growing on young trees planted a few years ago. The standard trees are growing in a very exposed position, and by keeping the branches well thinned the wood each year gets hard and ripe, and is studded with blossom buds; King of the Pippins, Lord Suffield, Quarrenden, Lady Sudeley, and Worcester Pearmain are a few of the many varieties having branches literally roped with fruit. Among the espalier trees, Alexander was the most conspicuous variety, fruits of which were of exceptional size and were colouring well. A fine, vigorously grown tree of Ribston Pippin was also weighted well, and it was refreshing indeed to find this old and much esteemed variety free from canker. The collection of Apples is a fine one, the varieties having been selected with a view to providing a continuous supply of fruit from August till late spring. The whole of the trees receive careful attention in the matter of summer and winter pruning.

Romneya Coulteri is usually considered somewhat tender, and many do not succeed with it except when planted in sheltered positions. At

Barford Hill I noticed a strong, healthy looking specimen growing in an open border exposed to the north, and Mr. R. Jones, the able gardener, informed me that it passed through the previous winter unscathed. This should encourage others to try again, as so beautiful a plant should find a home in every garden where it can be grown.

When I first saw the bright yellow blooms of *Calla Elliotiana* I considered it to be a great acquisition. The same opinion is evidently held at Barford, as a stock is being raised as fast as possible; every young sucker that can be obtained is potted into a small pot, and these are grown in cool houses throughout the summer. It is not one of the strongest of growers, but with due attention to feeding and careful watering there should be no difficulty in securing steady progress.

In one of the Orchid houses I was shown a healthy looking but by no means large plant of *Odontoglossum sceptrum Masereelianum* which won the first prize at one of the Ghent exhibitions. A flower spike was developing, and I regretted that my visit was not so timed as to enable me to inspect a fully expanded

flower of so choice a hybrid, which must certainly be regarded as being within the reach of the rich only, as 60 guineas was paid for it.

The charming annual *Nemesia Strumosa* Suttoni has proved a thorn in the flesh of many who have tried to grow it, and have never succeeded in getting it beyond a stunted state, but at Barford I saw many clumps in a mixed border growing and flowering splendidly. The soil there is naturally heavy, but has been well worked, and Mr. Jones sows the seed under glass, and pricks the seedlings out in boxes before they are planted in the open air.—H. D.

Apple St. Everard.

THE number of early dessert Apples of excellent quality is not so great that a new variety of distinct merit is unwelcome. On the contrary, when such is exhibited it is hailed with pleasure by all practical gardeners and fruit growers. In this category must be included St. Everard, which was exhibited at the meeting of the Royal Horticultural Society, held in the Drill Hall on the 11th inst., by Mr. C. Terry, The Gardens, Papworth Hall, Papworth, to whom an award of merit was recommended by the Fruit Committee for the variety. The fruit (fig. 70) is of small to medium size, bright red with crimson splashes on the sun side, and pale yellow with occasional patches of colour on the shaded side; the entire surface is profusely spotted with white. The eye is very large, wide open, and with broad, leafy, divergent segments set almost on the level. The stalk is stout, about three-quarters of an inch in length, and set in a shallow green-lined cavity. The tube is conical, and the stamens median. The flesh is very firm, white in colour, juicy, and of brisk flavour when fresh; after keeping a short time we found the flavour had materially depreciated. It is a variety that should find much favour for early cropping and immediate use.



FIG. 70.—APPLE ST. EVERARD.

Notes on Outdoor Lilioms.

DURING the months of August and September many brilliant hardy Lilioms are at their best in the open garden, and it will be generally conceded that they are amongst the most effective border flowers. Many of them have been grown for several generations in British gardens; for instance, the brilliant umbellatum, the chaste and fragrant candidum (Madonna Lily), the showy pomponium, and the spotted speciosum, and they are probably more largely cultivated at the present day than they have been at any period since their introduction to these shores. They are quite hardy, they require little cultural attention, and none that may not easily be provided by inexperienced cultivators, and they flower in such profusion that even a plant or two suffice to produce a gay effect in a small or medium-sized garden.

Some of these showy outdoor Lilioms may be referred to a little more fully. First, of course, comes the stately auratum, the recognised queen of her tribe. There is no grander border plant than the golden-rayed Japan Lily, and it is most valuable for pots also. This species holds the foremost place in popular estimation, and is cultivated in gardens of all sizes and descriptions. Its flowering period is August, and in congenial positions fine clumps are established that produce scores of noble flowers every year.

L. auratum is easily cultivated. It succeeds in any well-drained and fertile soil, but a peaty compost suits it better than any other.

This plant is so effective when in good condition that it is well worth while to devote a little special preparation to the soil in which it is to be planted in November. Work the earth well with a spade to a depth of 18 inches; and, if unfertile, remove a few spadefuls, and place in a mixture of loam and peat, the latter predominating. Cover the bulbs with 4 or 5 inches of soil.

Lilium lancifolium (speciosum) is a beautiful species, being delicately spotted and agreeably perfumed. But it is not cultivated to a great extent out of doors, being generally reserved for greenhouse decoration. *L. candidum* is only less popular than *auratum*, its pure white fragrant flowers being in demand for cutting. It is of an accommodating nature, succeeding in nearly all gardens. Bulbs are ready in autumn considerably earlier than those of most other species, and should be ordered in August or September.

The Madonna Lily flowers in June and July. The Martagons or Turk's Cap Lilies are very gay, and amongst the best for mixed

borders. There are many varieties. The old purple form is well known, also the white. *Chalcedonicum*, scarlet, is also a popular member of this section. A great improvement on the old Turk's Cap is *dalmaticum*, a very fine and distinct Lily that is making headway in popular favour. It is of a shining purple hue. Its white variety is most beautiful too. These Lilies grow about 3 feet high, and bloom profusely. They are perfectly hardy, and will grow in ordinary garden soil, flowering in July. *L. pomponium* is another very fine old *Lilium* of the recurved or Turk's Cap character. It is not so well known as some other varieties that have been named, but is well worthy of culture. This species is as free in bloom and accommodating in character as any

Lilium that could be named. It succeeds in any ordinary soil, and does particularly well in peat. The blooms are deep red.

L. Thunbergianum and its varieties are amongst the dwarfiest of the Lilioms, growing less than 2 feet high. They are floriferous and gay. One of the finest, and it is of modern introduction, that I have tried is *L. T. Horsmani* (fig. 71) a dark flower of splendid form. The Tiger Lilies (*L. tigrinum*) are general favourites. They do well everywhere, and their spotted flowers are always admired. The varieties are numerous, two of the best being *L. t. splendens* and *L. t. Fortunei*, the latter being very early in bloom. Its double variety is also a very handsome Lily, and these three should be generally cultivated. They bloom in August and September. The last to be mentioned is *L. testaceum*, a very distinct species. The flowers are of a nankeen yellow colour, and are borne abundantly. *L. testaceum* is hardy, and not particular as to soil.

From the remarks already made it will

be gathered that the outdoor Lilioms are of very easy cultivation. Such is the case; but nearly all like a well-drained soil, and if it is enriched they grow the more vigorously and bloom the more freely. Speaking generally, planting 4 inches deep in November may be advised. They are capital town plants. When established, the bulbs increase in number; and, if other clumps are desired, the clusters of bulbs may be divided, and the bulbs removed planted elsewhere.—F.

Imports of Fruit.—During the eight months ending August, 1900, there were imported into this country Strawberries weighing 52,225 cwt., value £85,949; Gooseberries, 26,045 cwt., value £14,626; and Currants, 64,453 cwt., value £87,166. During the season the black Currants have realised from 7s. to 9s. per half-sieve, and the red from 3s. to 5s. per half-sieve.



LILIUM THUNBERGIANUM HORSMANI.



Early Flowering.

THIS summer has been especially favourable to the growth of outdoor Chrysanthemums, and they are coming into bloom at an earlier date than usual. At no time have they suffered from drought, consequently the plants have developed into quite huge bushes, which are a mass of colour in the case of the earliest kinds, the later ones being studded with hundreds of fast opening flower buds.

These flowers remind us of autumn almost before we have had proper summer weather, but there is no doubt as to their usefulness either for cutting or for garden decoration. A good point in favour of early Chrysanthemums is that they, at least some of the varieties, lift well, and may be potted to furnish conservatories at a time when flowers are none too plentiful. If the plants are lifted with care—that is, with a good ball of earth, and afterwards shaded and sprinkled for a few days, very little seems to be taken out of them; the blooms open as well as if the roots had been established by being grown in pots the whole season.

One of the first to flower is *Flora*, a small yellow Pompon, but the habit of the plant is so bushy, and it blossoms so freely, that the sort is of considerable value. *Mytchett White* is early and the flowers are capital, yet the sort will never become popular on account of a sparse habit of growth, and it is not an easy one to propagate. The same remark as to habit applies to *Mons. G. Grunerwald*, a variety always spoken of highly, but we do not favour it. Of a similar shade of rose-pink colour, only better, is *Madame Marie Masse*, which is among the best in regard to growth and freedom of bloom. *Louis Lemaire* and *Henri Yvon* are pretty bronzy varieties obtained as “sports” from the former, but neither pleases me as a growing plant.

Harvest Home is one of the first with Japanese-shaped flowers to bloom. The plant is about 2 feet high, and covered with red and old gold blossoms. I have not seen anything in its way to beat this. *Crimson Madame Marie Masse*, like the type mentioned above, is a first-rate early kind. The shades of colour may not, however, be named crimson; bronzy-buff would describe them. The plant is less than 2 feet high, the flower stems are stout, and well formed bush comes naturally. In whites *Madame Desgrange* holds its own. There is a tinge of yellow in the flowers when they develop outside, but when lifted and planted or potted and put under glass they become white of sufficient purity for all purposes. This and the yellow “sport” *G. Wermig* are probably the best early Chrysanthemums yet raised, and considering that they have now been cultivated for a fairly lengthy period, it is strange that out of the many hundreds of new kinds of subsequent introduction they hold their place so well.

Various sports from each have now and then come forward as improvements, yet they appear to differ so little as to make them not particularly valuable. For instance, I was going through a large plantation of these two sorts a few days back, and one could pick out among *G. Wermig* the deep yellow which bears the separate name of *Mrs. Hawkins*, and the light one that is known as *Mrs. Burrell*. *Lady Fitzwygram* is a really good white variety, perhaps more free to bloom than is *Madame Desgrange*, and I think a purer white than that variety. This should be grown extensively, as it is capital in every respect. Three bearing bronze coloured blooms are *M. Dupuis*, *Comtesse F. de Cariel*, and *Ivy Stark*. The first is the earliest to flower, the second rather late but fine in colour and also habit of growth, and the last named is late too, but is especially good.

A sort giving rich deep yellow blooms is *Lemon Queen*. This, like all the kinds named except where mentioned otherwise, has rather large, loosely formed elegant flowers. The plant is dwarf in growth and very free. A yellow disappointing with us is *Mons. L. Ligneau*. It is somewhat tender and of ungainly growth, requiring a pot; but with other varieties better it is hardly worth this extra trouble.

One of the very best early Chrysanthemums is *Ambrose Thomas*. This gives a profusion of bronzy-red flowers, and in regard to habit it is excellent. A nice shade of salmon rose is found in the variety *Sam Barlow*. This seems harder than another sort, with a pretty blossom named *Madame Eulalie Morel*. *O. J. Quintus* is tall growing, and is really an October bloomer, otherwise its mauve tinted flowers are choice in their way. The variety *Roi des Précoces* has deep crimson blooms. This too is late, and oftentimes gets cut by frost just when it is in full beauty out of doors. *Ryecroft Glory* is a fine deep yellow, bushy habited plant, which is hardly a success outside on account of its being late to bloom, but as a pot plant few Chrysanthemums have better qualities.

Neither *Queen of the Earlies* nor the yellow variety of it is a

success in the open, nor does the rather lanky habit tend to make them useful when lifted. I have found it is only those sorts with a bushy growth that can be taken from the ground with a ball of earth, and have repeatedly noted it in regard to all Chrysanthemums. A straggly growth produces a similar habit in the root formation, so that one may tell in the case of a new variety whether the same will be of value to adapt itself to a system of culture largely favoured by those who grow flowers for market. The above list is by no means a lengthy one, but it includes the better varieties of their shades of colour. *Jules Mary* appears a promising new kind with crimson blooms; *Mlle. Gwyndudeau*, pink, and *Mytchett Beauty*, yellow, are also likely to be favoured when better known.—H. S.

Notes on Feeding.

A MOST important part in the cultivation of Chrysanthemums is the feeding and stimulating of the roots. Up to a certain period the soil in the pots contains sufficient fertility, which, together with the water supplied, proves ample for the needs of the plants. To give rich, stimulating manures at that time would be courting disaster, as instead of doing good it would kill the young fibrous roots. When the pots, however, become full of roots, and increased rooting power demands more moisture, the time has arrived to commence feeding, but at first it should be done in a light and cautious manner, never using stimulants other than in a weak state for several weeks at first.

Regularity in watering is one good method of keeping the plants healthy; indeed it is of paramount importance. By this is meant not watering at certain set periods every plant indiscriminately, but only those plants which require a supply. This care in supplying moisture lays at the foundation of achieving success by judicious feeding. The plants at any stage of growth must never be allowed to droop for want of water, is a fundamental rule in Chrysanthemum cultivation. This may be supplemented at the present period of the season by the direction that the surface soil must not remain dry for long. This fact is explained by the extraordinary quantity of roots which the plants possess. Moisture is taken up very quickly by them in bright sunny weather, so examination should be made of the whole stock several times a day in such weather, giving to those plants which are very dry indeed clear water only.

Stimulants ought not to be applied to very dry soil, for it is possible injury may result to the fine fibrous roots and root hairs at the extreme tips. The same may occur if the plants were to remain dry for a long period. Dry roots and dry soil ought, then, to be freshened up by clear water previous to giving stimulants.

The liquid drainings of stables and cowsheds and solutions of fowl and sheep manure make excellent feeding material to apply to the roots from the time pots are full of roots to the expansion of the flowers. Let the liquid be of a clear and not a muddy character, as the sediment left on the soil by solutions of the latter nature closes the pores of the soil and proves unsuitable. The various kinds of stimulants ought to be given in succession, changing the kind each week. Clear soot water is excellent, and ought not to be omitted from the list. Twice a week is, as a rule, ample, but weak solutions may be given at more frequent intervals.

These handy manures largely take the place of top-dressing, which was adopted at one time by the best growers. It is still good practice, but is perhaps not so general as formerly. Its chief merit lies in it attracting the surface roots to multiply, and thus afford a larger proportion of feeding power for the plants. Pots which are very full of soil must, if a top-dressing is added, have some narrow strips of turf laid round to hold the soil. The compost for this purpose may be similar to that used at the final potting, adding a sprinkling of soot and a dusting of superphosphate to a peck of soil. Mix well, and use moist. Water carefully for a time with a rosed can, and take special precaution that enough water is given at each watering to moisten the whole ball of roots, and until the new fibres are working freely in the compost do not give liquid manure. The aim of the cultivator must be to feed steadily and not give large doses of strong manure, which are always risky, and may do harm.—E. D. S.

In Ireland.

CHRYSANTHEMUMS may be briefly described as up to the usual standard, and in some quarters they look remarkably healthy. The insidious rust fungus is prevalent, and it appears to make a more effective headway on the stronger-growing plants than with their weaker brethren. The bush plants are going ahead. One significant thing about the Chrysanthemum is the immense quantity of plants cultivated and the increased number of people who strive to have a representative collection. I recently observed a disease which only attacks the Carnot family. It is probably a fungus, and causes quick defoliation. The harm, however, is confined to the foliage about the stem, as, so far, it does not travel upwards. The appearance of such a plant is ungainly, but if growers promptly burn the decaying leaves its presence may be averted or its progress checked.—A. O'NEILL.

NOTES & NOTICES

Recent Weather in London.—The heat in London since last Saturday has been quite oppressive, and on Sunday a shade temperature of upwards of 80° was registered. There have been intervals of brilliant sunshine, but the nights and mornings have been somewhat raw and cold. Rain fell for a short time on Tuesday night. At the time of going to press on Wednesday it was clear, bright, and very warm.

Royal Horticultural Society.—The next Fruit and Flower Show will be held on Tuesday, September 25th, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 P.M. At three o'clock a lecture on "Saving and Using the Rain," will be given by Mr. Peter Kay. The great Show of British grown fruit will take place at the Crystal Palace on Thursday, September 27th, and two following days. On each day of the show Fellows of the Society on producing their tickets will be admitted free to the Palace at 10 A.M. The committees of the society will not sit at this show. All fruits for certificate must be exhibited at one of the fortnightly meetings at the Drill Hall, Westminster.

Summer Dies Hard.—The Indian summer which we have been enjoying of late almost rivalled in temperature the balmy days of July. The brilliant sunshine on Sunday attracted large numbers to the parks, where the first breath of autumn has as yet scarcely seared the foliage, and even in the grateful shade the thermometer recorded 82°. In many parts of the country the thermometer rose yet another degree, and there was every indication of settled weather. In Paris people were complaining on Sunday that the heat more resembled that of torrid midsummer than the days of the waning year.

The Late Mr. B. R. Cant.—We understand that a movement is on foot to institute a memorial to commemorate the regard in which this distinguished rosarian was held by his brothers in the craft, on the same lines as the George Prince Memorial Fund was founded. The Very Rev. the Dean of Rochester, the Rev. A. Foster-Melliar, Messrs. Charles J. Grahame, George Paul, George Prince, and others have already signified their intention of contributing to the fund. Contributions will be gladly received by the hon. secretaries, the Rev. H. Honeywood D'Ombrian, Westwell Vicarage, Ashford, Kent, or Edward Mawley, Esq., Rosebank, Berkhamsted.

The Centenary of the Dahlia.—Florence, the city of flowers, is, says the "Express," about to celebrate a floral centenary—that of the Dahlia, which was first imported to Europe from Mexico in 1790 by three Spanish explorers, who planted it in Madrid in the hope that the tubers might prove a cheap food for the starving peasantry. Instead of that, the beauty of its flowers attracted the attention of the rich, and in 1800 some specimens were taken to Paris. From this time the Dahlia became one of the glories of European gardens. It also then first received a name, adapted from that of Dahl, the leading botanist of the day, which was unselfishly suggested by one of the original importers. The celebration will take the form of an exhibition of Dahlias, and it is hoped that the finest blooms in the world may be gathered together. The exhibition opens on September 20th.

Gardening as a Diversion.—One of the great advantages of a love of gardening is the break it makes on the continuous strain of business thought. No real lover and possessor of a garden ever died of insomnia. This is a disease which follows those by night who cannot throw off the thoughts of daily life. They retire to think instead of to sleep, and the darkness and quietness of the night favour the thought. To leave behind the business of the city for the pleasures of the trees and flowers of the suburbs has saved numerous lives that would otherwise have been broken down. This, says a transatlantic journal, seems better understood in the Old World than with us. The famous jurist, Lord Penzance, did not take his law studies to his country home. There he thought only of his garden and the floral treasures it contained. One of his hobbies in the garden was the improvement of the Sweet Brier, and the many beautiful varieties he raised obtained as much fame for himself as did his legal opinions, to say nothing of the pleasure the flowers brought him.

The Fenn Testimonial.—We are requested to acknowledge the receipt of contributions to the above from Mr. N. Kneller of Malshanger Gardens, Basingstoke, and from "N. N.," Northumberland.

Death of Mr. J. R. Jefferies.—We regret to have to announce the death of Mr. John Robert Jefferies, of the well-known Ipswich firm of Ransomes, Sims & Jefferies, who died at his residence on September 12th, and was interred at the Ipswich Cemetery upon Sunday last.

Only One Gold Medal.—At an important meeting like that of the Royal Caledonian Society at Edinburgh last week, it is noteworthy that but a single gold medal was awarded. This fell to the lot of Messrs. Sutton & Sons, of Reading, whose exhibit of vegetables and flowers which won them this distinction was more than usually admired.

The Thames Bank Iron Company.—We are informed that this company has taken over the engineering works of Messrs. B. W. Davis & Sons, Ebenezer Row, Lower Kennington, and the title of the firm in future will be the Kennington Engineering Works (Thames Bank Iron Company). All patents and special manufactures will be retained; as well as the leading employes in all sections of the works.

Gardening Appointments.—Mr. F. L. Thurston, for the past three years foreman at Burwood House Gardens, has been appointed head gardener to A. Morris, Esq., Court Green, Streatham, S.W. Mr. Frank Noyce has been appointed (through Mr. H. W. Ward, of Rayleigh), as head gardener to Captain E. A. Adcock, R.N., Redlands, Brompton. Mr. Noyce has been foreman for the last four years in the gardens at High Trees, Redhill.

Messrs. Wood & Son and the Poisonous Compounds Act.—In referring last spring to certain efforts which are being made to obtain the repeal of this Act we expressed astonishment at the present unfair working of the Statute. We are now informed by Messrs. Wood and Son of Wood Green, London, N., that they have succeeded in obviating the difficulties presented in the Act by establishing a wholesale and retail manufacturing chemistry department in their own business under the management of a qualified pharmaceutical chemist. Gardeners dealing with Messrs. Wood & Son will now therefore find themselves relieved of the necessity of going out of their way to obtain "weed killers" and insecticides from the local chemist.

Ramie Fibre as a Substitute for Cotton.—Mr. D. Edward Radcliffe, Regent's Park, writes that Lancashire is threatened in connection with the cotton industry with a serious loss, and he asks why this country does not profit by its lessons. When the last great famine took place during the American war Great Britain, he says, was shown the folly of relying on one country for its supplies. "We have," he adds, "a vast territory in which we could grow Ramie, which is a fibre far superior to cotton. It will grow where cotton grows, and where it will not. The possibilities of this plant are enormous. It grows wild in India and many other of our possessions. It will make anything that can be made by flax, cotton, wool, or silk. If our Colonies would turn their attention to Ramie growing, the possibility of a vast industry being crippled for the want of supplies would be a thing of the past."

Cocoa in the Philippines.—The Cocoa plant grows in great abundance in the Philippine Islands, and it is stated that there is a good opening for the manufacturers of chocolate products of all kinds in the islands. The Cocoa plant in the Philippines is more like a shrub or bush, being about 10 feet in height, than the plant in South America, which averages about 25 feet in height, and forms quite a tree. The reason for the bushes not growing taller is to be found in the lack of proper cultivation, as the farmers of the islands give little attention to their farms. The large planters have as yet done little to develop the Cocoa industry, though their other crops are large and often well cultivated. The Cocoa plant grows near the protected towns, and will furnish two crops a year without cultivation. In the mountains tons of Cocoa go to waste every year. The leaves at certain periods of the year have a deep, rich, green appearance, while the flowers take on different colours and are most striking. The fruit is a large pod, oval in shape, which contains the beans from which the chocolate is manufactured. If, says an authority, modern methods of working the product were introduced, much of the waste occurring through primitive appliances could be avoided, and the profits be large.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Lord Tredegar's Shows.—We are desired to announce that Lord Tredegar's shows are fixed this year for Tuesday and Wednesday, 27th and 28th November next.

Wargrave Gardeners' Association.—At the recent monthly meeting of this society a paper on Sweet Peas was read by Mr. Bazeley, Twyford. The perennial Sweet Pea was alluded to in terms of approbation, and a list of some of the best varieties was given by the essayist. Some fine exhibits were staged by various members.

Horticultural School for Hampshire.—The Hampshire County Council have just established a farm and horticultural school at Old Basing for male and female students, who will be received at different periods of the year. The farm comprises 61 acres, and the buildings include a large detached house to accommodate about sixteen students, with farmhouse, dairy, and other necessary outbuildings. The instruction will be kept as far as possible on practical lines, with sufficient science to secure a proper understanding of the practical operations. Among the subjects taught will be the general work of a farm, butter and cheese making, poultry and bee keeping. For the female students there will be special instruction in cookery, needlework, laundry work, and domestic economy, while both sexes will receive instruction in elementary agricultural chemistry, botany, injurious insects, farm book-keeping, land measuring, and drawing. Mr. William Nixon is manager and head teacher, and the chairman and secretary of the Royal Counties Agricultural Society are on the committee.

National Dahlia Society.—The honorary secretary of this society sends us the following list of new varieties that received first-class certificates at the recent Crystal Palace Show. Cactus Dahlias: Mr. J. Green's Baden Powell; Mr. S. Mortimer's Purity; Mr. J. Stredwick's Lord Roberts, J. Wier Fife, and Eclipse; Messrs. J. Burrell and Co.'s Galliard, Lyric, Rosine, Vesta, J. W. Wilkinson, Dinorah, and Artus. Pompon Dahlias: Mr. M. V. Seale's Buttercup and Doris; Mr. J. T. West's Daisy, Adelaide, and Darkest of All; Mr. C. Turner's Zerlina and Flora; and Show Dahlia, Mr. G. St. Pierie Harris's Viceroy. This is in correction of our list on page 256, and demonstrates the necessity for some much clearer system of indicating them. On September 25th, 1900, the committee will meet at twelve o'clock, at the Drill Hall, Buckingham Gate, Westminster, S.W., when certificates will be awarded to such seedling Dahlias as may be deemed worthy. Entries should be made to the hon. secretary at the Drill Hall, before 11.30 on the morning of the show. Mr. A. Dean has offered a special prize of 10s. 6d. for the best bunch of new Cactus Dahlia exhibited at this meeting.

Chrysanthemum Society of America—An Englishman as President.—At the annual meeting of the Chrysanthemum Society of America Mr. E. G. Hill was in the chair, and Mr. E. A. Wood of Boston acted as secretary in the absence of Mr. Elmer D. Smith. The secretary's report, setting forth the varieties certificated by the society last year, was adopted. The following gentlemen were elected officers for the ensuing year:—President, Mr. Arthur Herrington, Madison, N.J.; vice-president, Mr. Eugène Dailledouze, Flatbush, N.Y.; secretary, Mr. Edwin Lonsdale, Philadelphia; treasurer, Mr. John N. May, Summit, N.J. Mr. Smith positively declined to stand for secretary again, and a vote of thanks was given him for his efficient services on behalf of the society during the seven years he has been its secretary. The society decided to give to the National Chrysanthemum Society of France the sum of 25 dols. to be used toward securing a suitable trophy to be competed for at the forthcoming Chrysanthemum show of the French society to be held in Paris. It was also decided to offer a cup, value not exceeding 20 dols., for the best ten blooms, new or old, at the exhibition in Chicago this autumn, to be given under the auspices of the Chicago Horticultural Society, the judges in this competition to be appointed by the Chrysanthemum Society of America. The society also voted that the president of the Chrysanthemum Society of America be permitted to appoint committees to pass on seedling Chrysanthemums each year without any of the restrictions that have prevailed.

United Horticultural Benefit and Provident Society.—The annual dinner of this society will take place at the Holborn Restaurant, Holborn, London, W.C., on Wednesday, October 10th, at 6.30 p.m., on which occasion George Monro, Esq., will preside.

Brixton and Streatham Horticultural Society.—We learn that in consequence of the changes that are taking place in the suburbs of South London this society decided at the last general meeting to alter and extend the radius to two and a half miles from Streatham Hill Station. The autumn exhibition will be held November 7th and 8th. The honorary secretary is Mr. W. Roupell.

The Society of American Florists.—The sixteenth annual meeting of the Society of American Florists has set such a mark for many-sidedness, and withal of such proportions on every side, that it may well be doubted if the next ten years will see its equal. The New York Florists' Club has created an expression of horticultural conditions to date that is grandly creditable to the city. New York has shown that with her greatness she is not oblivious to the country and her distant friends. She has taken pride in showing how well and how completely she covers horticulture within her own bounds, and her florists have made great sacrifice of time and labour in doing so. Be it recorded to their lasting credit.

Acocks Green Summer Show.—Despite the disastrous consequences attendant upon the annual show on Bank Holiday, occasioned by the gale of wind placing *hors-de-combat* the large marquee and its valuable contents, the committee with characteristic enterprise arranged to hold another show on September 15th. The schedule was naturally curtailed in the classes, but the display proved to be most interesting and attractive. The chief feature was made by the collections of cut border flowers, whilst vegetables were exceedingly well shown in extensive numbers. Fruit, though not largely contributed, was of excellent quality. First-class certificates were awarded to Messrs. G. Bunyard & Co., Maidstone, for fine Apples and Pears; to Messrs. Kelway & Son, Langport, for a collection of superb Gladioli; to Councillor W. Waters for Violas; to Mr. John Crook for Pumpkins; to Miss Mary Edwards for Sweet Peas; and to Mr. W. Baggs, gardener to W. E. Perks, Esq., Solihull, for a splendid collection of Asters.

Cacti at the Royal Aquarium.—For several days, ending on the 15th inst., there has been on view in the Royal Aquarium a perfectly unique horticultural exhibition, inasmuch as it was composed entirely of cactaceous plants emanating from the Home of Flowers at Swanley. Probably many people who have not been to Messrs. Cannell and Sons' establishment would be surprised at the variety and extent of the display at the Aquarium. For years, however, the firm has been gathering together a collection of these peculiarly interesting plants, and may be congratulated on the results to which they have attained. The interest that has been shown in the plants by those visiting the Aquarium has testified to the love of the majority of people for something out of the common. Hundreds of species and varieties were represented on the half dozen or more tables requisitioned, and they ranged in size from the most minute to the very largest that could be made to travel from Swanley to London with reasonable ease.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
September.		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
Sunday.. 9	W.S.W.	deg. 60.8	deg. 57.4	deg. 69.0	deg. 49.3	ins. —	deg. 59.9	deg. 59.5	deg. 58.5	deg. 41.3
Monday.. 10	W.N.W.	63.8	54.6	69.5	49.3	—	60.3	59.8	58.7	39.5
Tuesday 11	N.	61.2	54.0	65.8	47.0	—	60.1	60.0	58.5	36.9
Wednesday 12	S.E.	54.2	51.5	69.9	42.0	—	58.4	59.8	58.5	33.2
Thursday 13	S.E.	52.6	51.5	69.7	40.9	—	57.6	59.3	58.4	34.0
Friday.. 14	E.S.E.	61.5	55.9	66.7	49.5	—	58.2	58.9	58.4	36.4
Saturday 15	E.S.E.	59.9	56.9	70.5	55.0	—	58.8	59.0	58.2	44.2
MEANS ..		59.1	54.5	68.7	47.6	Total —	59.0	59.5	58.5	37.9

Cool nights, misty mornings, and dull days have prevailed during the past week. No rain has fallen since the 1st inst.



Plum Denniston's Superb.

I AM sending you a freak in Nature which I thought would be interesting to the readers of the *Journal of Horticulture*. As you will see by the enclosed there are two varieties of Plums on one spur; the variety is Denniston's Superb. Would you state the cause of the freak, and if it is of rare occurrence? I have not seen anything like it before.—J. NICHOLSON, *Solberge Gardens, Northallerton*.

[We have not previously met with a similar instance of two distinct Plums being produced on one spur. It is not possible to state the cause of the freak, which is, of course, analogous to the sporting of Chrysanthemums and other flowers. We print your letter as being of much interest, and some amongst our experienced readers may have met with a parallel case, and will place it on record in our pages.]

Groups at Shrewsbury.

YOUR esteemed correspondent, "N. H. P.," in his references (page 228) to the decorative groups of plants at the recent Shrewsbury Show, is just a little at sea. Doubtless he had time only to take a very hurried view of them, and without his schedule. But had he been able to refer to that useful book of reference he would have found that there were classes for two diverse groups, one including foliage and flowering plants, the other comprising foliage only. Each of the groups were of 300 feet area. They were arranged back to back, so that the first class of groups faced to one side of the tent, and the other class of groups to the other side. Possibly he was not alone in assuming hurriedly that the groups ran right through.—D.

Certificating Potatoes.

OUR good friend Mr. Godfrey lives so remote from London that unfortunately we are debarred from having his vast experience with Potatoes to help us on the Fruit Committee of the R.H.S. Perhaps if he were a member of the Fruit Committee all its acts would be above criticism; but as he is not so, then must that body remain essentially mortal, and no mortal is perfect. Yet I somehow think, according to his own showing, that if the existing committee recognises the merits of a good Potato now, and the old body did not do so some years ago, that so far from the present body being subject to his animadversions, it is rather entitled to credit. Still, do what you will, you cannot please everyone.—A. D.

A Chat about Pears.

As "R. Atkins" (page 237), although presenting a good choice of varieties of Pears under his care, seems desirous of adding thereto, I suggest, for September ripening, Triomphe de Vienne and Marguerite Marillat, the latter of such richness of colour that few other varieties can compete on that score, although flavour is also excellent. Fondante d'Automne would be the next to ripen of any merit, also Beurré Hardy, which is really an October Pear, as is also Beurré Bosc, which for flavour and elegance of form has no equal in the latter element, and is exceeded by few in the former.

As to latest sorts, from Christmas to Easter, there are Nouvelle Fulvie, Le Lectier, Marie Benoist, Passe Crassane, Napoleon, Beurré Easter, none of which can be beaten in its season.

To commence the season with Jargonelle is fair, but does not cover the whole ground, as Citron des Carmes is a month earlier, and if not a very substantial Pear, is a sensation as the earliest Pear fit to eat (from the tree); Doyenné d'Été and Beurré Giffard should be added for relative earliness.

I am surprised, seeing Beurré d'Amanlis deprecated and Madame Treyve almost as much, with both of which criticisms I, however, agree, that Beurré Clairgeau is tolerated, which for flavour is the least desirable of all the Pears under review, and which is not improved by its vulgar cheek. Also Fertility is out of the question among Pears of merit of the first section, and would be improved upon by substituting Beurré de l'Assomption and Brockworth Park as September Pears, and Beurré Diel and Beurré Bachelier as November Pears, although none of these latter four reaches the merits of those discussed earlier.

A Pear that came under notice a year or two ago, although known for some years earlier, is President Barabé, presented by Messrs. Veitch, ripens December, January, and is to be classed among the finest

section. Beurré Capiaumont and Trout, named by your correspondent, are not of such merit as to be worthy of a place, whereas Winter Nelis should be missed on no account.—H. H. RASCHEN, *Sidcup, Kent*.

Cactus Dahlias at the Crystal Palace.

YOUR list of awards to these flowers at the C.P. had the merit of being singularly incorrect, a merit which you may blush to find exalted into fame. No doubt ere now the secretary, Mr. J. F. Hudson, will have set you right. At the Palace, in spite of there being plenty of table room elsewhere, the seedling flowers were crowded into a regular mix. Apart from dispensing with the non-wire regulation, which is absurd, unless stems are made of the first importance, I hope another year the seedlings will be placed on ample table room in a more retired part of the Palace than was the case the other day, and that whilst the competitive judging is proceeding the seedlings will be in process of adjudication simultaneously and with ample deliberation.—SCRUTATOR.

REGARDING Mr. A. Dean's observations (page 240), *apropos* of the use of foliage in the setting up of Cactus Dahlias for exhibition purposes, whilst agreeing that there is a danger of overdoing it, I consider that it is a step in the right direction. I had a convincing argument in its favour a few days ago, when, passing through the Market Hall, Birmingham, my attention was arrested by Mr. John Pope in the act of introducing between the singly arranged "Cactus" flowers on the stands a sprig of about four small leaves of the flower in the moss, and it served to show up the blooms more clearly and naturally than when arranged on the moss merely. The Dahlia foliage if stuck in damp moss will keep as fresh as the blooms inserted in tubes containing water. I am not cognisant of its having been adopted as yet at any exhibition of Dahlias, and unquestionably the mode in question is worthy of extended adoption.—W. G.

UNDER this heading "A. D." makes some trenchant remarks and criticisms anent the National Dahlia Show at the Crystal Palace. As a grower of nearly all the new Cactus varieties I take a deep interest in the National Show, and more especially in the Cactus section. Your correspondent calls attention to the class for nine plants to be grown in pots, which was a complete failure. He does not, however, mention the fact that the class and prizes emanated from a private source, and the society as a body was not therefore responsible for its advent. I quite agree with "A. D." that such a class is not required, and I trust will not be encouraged at future exhibitions.

I think almost everyone will agree that the competition for the large classes should be strictly confined to varieties in commerce, then every grower would be placed on the same footing, whereas, at the present time, it seems simply a race between the raisers. I fully appreciate the evil pointed out by "A. D." as to the majority of the varieties being obtainable only at prohibitive prices, but I think the point as to exhibitors all competing from the scratch the more important. Again, several of the new Cactus varieties to be seen at the Palace, although beautiful, will never be offered in commerce. The fact is the past few summers have enabled crossing and seed saving to be carried to an almost unlimited extent, so that just now we are having a flood of new varieties, some of which are decided improvements, while others are of doubtful value. The idea expressed by your correspondent as to the creation of separate classes for seedling varieties is undoubtedly a good one, and I am quite sure there are enough raisers now in the field to form a good competition. The fact that a raiser would win the prize with his own productions would form a great incentive for him to enter.

As to the criticism of the judges from "A. D.'s" point of view, everyone must know that where foliage dressing is allowed much will depend on the taste of the judges, and it is almost impossible to lay down any hard and fast rules. I would suggest to the committee of the National Dahlia Society that in future the necessity of following the schedule should be impressed upon the judges, for some of the awards mentioned in your report were afterwards altered, and more than one exhibitor had to be disqualified for not conforming to the schedule; but presumably this was done after your reporters had passed the classes.

Without associating myself with the remarks as to the wholesale distribution of cardboard, or in other words certificates of merit, I should like to say I could not find enough cardboard, or rather cards of ownership, on the numerous specimens staged. Surely this is a small matter that could be carried out on similar lines to those in vogue at the Royal Horticultural Society's meetings. I notice in your report of the seedlings gaining certificates that the owners have got considerably mixed, but I suppose this is a matter that will be put right to the satisfaction of the exhibitors. Without carping, I think the present system of staging the seedlings is little short of a scandal; they are all huddled together, so that it is impossible for the general public to view them properly, for being exhibited without wires every bloom has to be lifted to see the form and colour. Surely this is a matter deserving a little more attention on the part of the executive!—J. B. R.

In Orchardland.

KENT is a county of many harvests, and the expression hardly needs explaining, for the farmer is also a gardener, in the culture of such horticultural crops as fruit and vegetables. As long ago as June the first harvest began, when consignments of green Gooseberries worked their way from Kentish plantations by various stages to the barrow of the costermonger in the streets; the fertile fields of the Isle of Thanet contributed Asparagus and early vegetables about the same time and then the Strawberry harvest began in real earnest. Just when the growers in the Strawberry districts round Swanley were as busy as bees despatching their Paxtons and Sovereigns to London and the North, the Cherry farmers round Sittingbourne and Madsone began that harvest so important in Kent, because the county holds the monopoly of it. Since the summer fairly opened the season seems to have been a succession of harvests, on the garden side of the holding the fruit and vegetables, on the farm portion the hay, then the corn, and now the Hops, the Potatoes, and root crops.

The fruit grower is busy with his final ingathering, for the ruddy tint on the orchard trees is the colour of the ripening Apples, the dense purple on the Plums and Damsons speaks volumes for the heaviness of the stone fruit crop, and Pears hang more thickly than they have for several seasons. For a long time now there has been anxiety about the stone fruit, not on the ground of scarcity but abundance. "Will they pay for picking?" has been a question much debated, and though everyone hopes they will I am afraid the growers will not make a pile out of their burdened trees. I wonder whether the consumer will get his Plums and Damsons very much cheaper than usual?

Speaking of Apples, there are two striking features in the orchards just now—the laden state of the branches, and the number of fruits on the ground. No, it is not the result of the wind, for the fruit brought down by the August gales has been picked up and disposed of long ago; and strange though the expression may sound, I think that gale was something of a blessing in disguise, for the benefit derived from thinning Apple crops is not yet fully realised, and the performing of the operation by the wind has tended towards the improvement of the fruit which remained.

You have only to glance at the fallen fruits to find out the cause. Each specimen is prematurely ripe, and the tell-tale hole at the side is the work of the codli moth caterpillar. To use a local term, they are "grub-eaten," and so far as the majority of growers is concerned, that is all there is to say about them. In some seasons they would have paid well to pick up and send to market, but this year there are too many Apples for that, and the grub-eaten specimens become the property of the street hawker at his own price, or rot on the ground where they fall. Cider! did someone say. Oh no; the surplus Apples are not used much for that purpose, for, except in a few districts, Kentish folks are neither cider makers nor cider drinkers. Perhaps they might become so if the genuine article was more easy to obtain; but most of the so-called Devonshire cider which is sold in the country is sorry stuff.

The ravages of the caterpillar do not seem to be worrying growers much, perhaps because Apples are plentiful; but I am inclined to think that the pest is on the increase. In the opinion of many last season was a record for grub-eaten Apples, but I think it is broken this year; and if the figures could only be got at giving the tons of otherwise good fruit that will rot, useless and profitless, through this pest, they would be astonishing. With few exceptions no very strenuous efforts are made to fight the foe by spraying or any other method, but it may come in the future. There was a time when the washing of Hops was unknown, but the spread of aphid pests has been so general that hopes of a crop may be abolished if the operation is neglected. The absolute necessity of rigorous efforts to checkmate the pests of the fruit crop will have to be observed as the years roll on.

There is a dishevelled look about the kitchen garden just now, and every evening the air is scented with the smell of stick fires, which accompany the general clearing up in the cottage plots all round. A sunny September is an untold blessing, for the Potatoes come out dry and clean, and the transplanted Onions are ripening up in a manner that speaks well for their keeping powers. We are early in these parts with the harvest of the garden. Our Potatoes are mostly lifted and stored and in spite of the ominous blotches which appeared on the leaves when rains were prevalent in August I have not seen many diseased tubers. But there is a mystery about the Potatoes this year which I am unable to fathom, and I invite the opinions of any readers of the *Journal of Horticulture* who can throw light on it. On account of it digging was uncertain, and in some cases disappointing. Here

was a root which turned out a splendid crop of tubers, and the next to it produced nothing but a few tiny useless specimens. In the case of the heavily cropped roots there was no trace of the parent set, except the decaying remains, but in all instances of failure the planted sets came out as firm and sound as when they were put in. This state of affairs is common in the district, and Potato crops are generally much lighter on account of it. Why did some of the old tubers decay while others remained whole: and can any reason be given for the latter not having progeny? A satisfactory explanation would be of interest to many who are puzzled.

A gratifying feature of the vegetable garden is the healthy look about the winter greens. We have no fears of a dearth when the drear season comes on, though a close watch is being kept on the caterpillars, which seem to have a particular fancy for the Brussels Sprouts. It has been a good season for greens, and gardens are well supplied where reasonable care was taken. Showery weather accompanied the sowing, it was damp for the planting, and the rains which perturbed the holiday makers were glorious for the green crops, and we cannot afford to leave this indispensable commodity out of our calculations.

I am almost persuaded to pursue my harvest notes into the flower garden, for there is an overflowing fulness there. But my space is filled, and there is nothing new to tell. Ruthless knives are hacking the "Geraniums" on the beds for next season's cutting supply, so their harvest is here; the borders are bright with a wealth of Dahlias and autumn Chrysanthemums, and this morning I picked a Camille de Rohan Rose, full and perfect as any which came in June, and glistening with the diamond dewdrops on the petals. It was a pleasant surprise, but then the garden is full of them in the golden month of the harvest moon.—G. H. H.

Keeping Grapes in Autumn.

As soon as Grapes approach maturity and become thoroughly ripe the berries are liable to damp and decay, especially in damp weather in autumn, and when hanging in positions where it is possible for drip from the roof to reach them. Dampness arising in the house from any cause will, unless dissipated, prove injurious to the rather delicate skins of many varieties of Grapes. A certain amount of damp and stagnant moisture will most assuredly collect in any structure during the autumn months of October and November, and it is difficult to prevent it entirely. The best means of avoiding its bad effects is by judicious ventilation, the employment of fire heat to set the air in motion and create a buoyant atmosphere, as well as avoiding everything which tends to produce superfluous moisture.

During these months the air is laden with moisture from the warm damp ground and the falling leaves. After November is over drier conditions prevail, the air is sharper and colder, and moisture less readily deposited. This is apparent in the better keeping of Grapes when hanging on the Vines, but whether it is owing to the drier conditions which prevail or the tougher skins of the Grapes is a moot question. Perhaps both these facts combine in bringing about the result. Until, however, that time comes great care is necessary, or rather constant attention is demanded in cutting out every injured berry as soon as seen. Decomposition on one berry will soon spread to the adjoining berries, and if allowed to remain, the whole bunch may rapidly become infected.

Grapes which have to hang late ought to be well thinned in the first instance, so that the autumn air can circulate freely about them, thus rapidly dispelling the accumulating moisture with the aid of a little fire heat and ventilation. Judgment must be exercised in employing artificial heat. A very dry heat may cause shrivelling, which certainly deteriorates the bunches. The drier the house can be kept without any heat at all the better. Keeping the house closed when fire heat is used, with the idea of economising heat, is not the best way, but give free ventilation and heat together.

In very heavy dull weather, and when fogs prevail, the ventilators may be closed, employing little or no heat for a short time. The temperature of the structure should be kept as equal as possible. In frosty weather the best temperature for the Grapes is 40° at night, and 45° by day. Accommodate as few plants as possible where ripe Grapes are hanging. They must be watered, and the watering causes damp; but if this is not practicable, the best must be made of it by careful ventilation and firing. Collect and remove all the leaves from the Vines as they fall or turn yellow, but this does not happen in late vineries until November. If any water is spilt about the house, dry it up as soon as possible.—B. H.

Hardy Flowers at St. Catherine's.

THERE is an interesting garden of hardy flowers at St. Catherine's, in the suburbs of Dumfries. The owner, Mr. Frank Reid, is exceedingly fond of his garden, and spends much of his time in it. He is also a more than usually good amateur photographer, and he has favoured me with three photographs of his flowers. In one are shown several dwarf tree Pæonies, plants which Mr. Reid justly admires, and which are grown in some number. Those represented were imported direct from Japan, and give handsome flowers of varied colours. By-and-by, when they become taller, the effect of the pedestal of the vase rising from their midst will be even better than now. The other photographs show some Yuccas of the species known as *Y. filamentosa*, one of the most useful members of the genus. There are several clumps in this garden, and they flower with much freedom. This Yucca, as will be seen from the illustrations, is very effective with its fine leaves, which produce filaments on their margin, and their noble spikes of large flowers.

In their season the Crocuses are charming at St. Catherine's. There are many thousands in the garden, principally in the margins of

the large beds on the grass, and along the avenue leading to the house. In several colours they are exceedingly fine, and constitute a feature which is much admired by passers, who can see them from the entrance gate. *Lilium candidum* is also grown in great numbers, and the effect the long lines give is extraordinarily fine. There are also many of the best herbaceous plants, such as Asters, Helianthus, Pinks, Alyssums, herbaceous Pæonies, Irises, and a large representation in

general of popular hardy flowers. Shrubs are also favourites, and among the many things there are several Japanese Maples, Heaths, and miscellaneous shrubs. A large rockery is in course of formation, and in the kitchen garden are a number of flowering plants, such as Christmas Roses, and other useful flowers for cutting. One feature of the garden is a fine specimen of the Almond, noteworthy not only because of its beauty when in bloom, but also to show its value for gardens near towns. Unfortunately the increasing trade of the town has caused railway extensions, which have brought the works near the garden. The tree is literally coated with soot from the engines, yet it flowers quite freely, and is in a thriving condition. The garden at St. Catherine's is an example of what can be done by those having a love for flowers and the means of indulging their tastes. It is an interesting one at most seasons of the year.—S. ARNOTT.



DWARF TREE PEONIES AT ST. CATHERINE'S.



CLUMPS OF YUCCA FILAMENTOSA AT ST. CATHERINE'S, DUMFRIES. N.B



The Hanged Man.—There is an Orchid called the "Hanged Man;" it is *Aceras anthropophora*, which is found nearly everywhere in France, on sandy ground or on limestone; in Belgium in the limestone region of Florzé, near Aywaille, and in the sandy claystone region of Wemmel. It is easy to see why the *anthropophora* is called the "Hanged Man," since it grotesquely resembles the figure of a man suspended by the neck. If you wish to see the resemblance for yourself, go to the localities mentioned, in May or June, and probably you will find, on the shady side of the woods, the "Hanged Man." —("La Semaine Horticole.")

Apple Lady Sudeley.—As a standard this comparatively new Apple cannot be too much grown for early autumn dessert use. I am familiar with two or three trees that have this year borne fair crops. The yellowish skin beautifully striped with crimson makes the tree very attractive. Its rich spicy flavour and melting flesh render it the gem of all early Apples. In pruning the knife must be very sparingly used, and then only to thin out and regulate the branches, as it is one of those varieties which bear on the terminal points of the shoots as well as upon spurs. We are indebted to Messrs. Geo. Bunyard & Co. for the introduction, in 1885, of this valuable addition to our early autumn dessert Apples.—W. GARDINER.

Fruit in Kent.—The fruit orchards of Kent are looking at the height of their harvest beauty just now, and not at any time since the blossoming of spring have they been so well worth a journey to see. In spite of the heavy rains and gales at the period when the fruit was setting, there is a very abundant crop of most kinds of stone fruit. Damsons especially are very prolific in their yield this year. The ripe fruit is hanging in such clusters that strong branches have broken and given way under their heavy load. It is the same with Plums, and the orchards are bright with the rich colour of the ripe Plums and ruddy-skinned Apples. To those who know only the straggling unkempt orchards of counties where fruit growing is subsidiary to the other farm work, and where the fruit is left to take its chance, a visit to the orchard country in the garden of England is a revelation. Even the Apple orchards of the west do not compare—for size and ordered cultivation—with those of Kent. Here, says a contemporary, they are of huge dimensions, every inch of ground is utilised, the trees are planted in perfectly symmetrical rows, and under the larger trees the ground is literally filled with the smaller shrubs of Gooseberries and Currants. Those who have never paid a visit to the heart of Kent at this time of the year would be amply rewarded in the rich beauty of the landscape in its fruit and Hop harvest period.

The Best Plums.—All descriptions of Damsons, Bullaces, and inferior, small, or common seedling Plums have this season fruited so marvellously that it is no matter for surprise to read of fruits rotting on the trees, although that is hardly correct to state so early in the season. That such may be the case later is probable, for finding a market for such enormous quantities seems impossible. Thus this year, with the Plum crop the best for the past ten seasons, we see profits which should be considerable dwindling down to a mere song, or disappearing absolutely because of the overwhelming abundance of inferior fruit in the market. What a pity it is that so much room will be given to these inferior varieties. No one wants half a hundred, or even half a score, of common Plums. On walls where the very best of dessert Plums, including the delicious Gages, can be had in their best quality, then numbers of varieties matters less, as in that case they can be made to give a long season. But market Plums do not come from walls, or hardly even from bushes, they come mostly from standards, and of these did we restrict our varieties to Rivers' Early Prolific, Czar, Victoria, Monarch, Emperor, and Archduke, with Bradley's King and Frogmore Damsons, the latter having fruits of the largest size, what a gain it would be. Small fruiting Plums, Damsons, or Bullaces are enormous croppers, but the cost of gathering them is great, whilst they severely exhaust the trees. When these small fruits fetch only 1s. per bushel no profit results, and they simply help to drag down the market prices of superior Plums.—A. D.

Where Nitrate comes from.—All the nitrate of soda in commerce comes to us from South America, where vast deposits of this salt occur in the dry, rainless regions which form such a striking feature of certain parts of Chili, Bolivia, and Peru. At the present time the consumption of nitrate of soda as a manure exceeds over 1,000,000 tons per annum. Roughly speaking, nitrate of soda supplies about 15 per cent. of nitrogen, and to this is solely due its value as a fertiliser, as the soda which it contains is of no practical manurial value.

Packing Choice Plums.—In all questions arising on the subject of marketing fruit it will be generally admitted that packing is one of the most important elements towards success. On every hand most excellent fruit is grown in this country, and some of it having been graded is skilfully and honestly packed before consignment to the salesman, who, with his customers, soon recognises these points, and marks that grower as worthy of encouragement. As illustrative of the most approved method of packing choice Plums for market, Mr. R. Lewis Castle, F.R.H.S., of the Duke of Bedford's experimental fruit farm at Ridgmont, recently sent us a box of Denniston's Superb. Each individual fruit was wrapped in soft tissue paper, of which there were three or four thicknesses between the two layers of fruits in the box, and rather more on the top immediately beneath the lid. Having recognised the absolute necessity for perfect firmness in packing, there had not been the slightest movement in transit, with the result that every fruit was as firm and shapely as when they were placed in the box. We congratulate Mr. Castle upon the good work, and feel assured that if every grower exercised equal care with choice fruit they would be more than repaid by the higher returns forthcoming for their products.

The Harvest of the Herbs.—In addition to the harvest of hay and of corn, of fruit and of Hops, there is another harvest reaped in Great Britain, which, though small, is useful and important—viz., the harvest of herbs. It may not be widely known that grounds exist at some places, among them being Banbury and Hitchin, for the purpose of growing herbs, such as *Hyoscyamus* and Peppermint, from which drugs are manufactured. Other herbs are collected from the hedgerows and coppices. Among the wild herbs are Agrimony, Burdock, possibly Belladonna and white Bryony, Marsh Mallow, Coltsfoot, and Dandelion, in which quite a large trade is conducted, not always, we fear, for that sedate drug known as taraxacum, but also for less legitimate use as an adulterant of coffee. These herbs, and numerous others, are dried by the air, and sold to wholesale houses, whence they are vended in packets, or drugs are made from them. It must be understood that there are numbers of herbalists in this country who sell herbs together with simple drinks and medicines made therefrom, while a great demand exists among the iron puddlers of the black country for slightly tonic beverages made from herbs. But the collection, and even cultivation of herbs, seems to be declining in Britain, quantities being imported from the Continent and from America. Thus, although some Camomile flowers are grown at Ringwood, in Hampshire, nearly all used in Britain come from Belgium and Saxony.

A Good Cabbage.—Amidst the numerous awards made from time to time at the Drill Hall by the various committees, the granting of a first-class certificate to a Cabbage is something of a novelty. The Fruit Committee now and then gets pretty well abused—first, because it ventures to recognise the merits of some good old thing too long neglected, the virtues of which time has tested over and over again; and second, because awards are made to new things, the merits of which are not easily discernible to the ordinary man. But there could be no mistake as to the good qualities of this Cabbage. I have seen large breadths of it growing, and can vouch for its great excellence. A week ago Messrs. Cannell & Sons sent sixty heads, every one as if made in the same mould, and as perfect in form, hard and clean, with few outer leaves as anyone could desire. Every head was good enough to secure a high award at any exhibition. No one need desire a larger variety. It seemed to combine all the excellencies of Ellam's Early and Les Etampes, and that is high praise. It is unfortunate that the variety is named Defiance, as there is another and larger Cabbage of that name in commerce, and presently there may be an unpleasant mix. Remembering that good Cabbages have long lives, for this one may be widely grown twenty or even fifty years hence, no award less than a first-class certificate would do it justice. The award is well deserved, for great pains have been taken for several years to produce a pure stock, and now the result is seen.—OBSERVER.

Early Cauliflowers.

(Concluded from page 228.)

As soon as the seedlings have made one rough leaf and are showing another they must be either potted or pricked off. In either case the plants should be given a warm and sheltered yet sunny situation, and even in the most favoured parts of the country they need protection in winter. This may consist in the South of England of mats, supported by hoops, in frosty weather, the plants being pricked off about 4 inches apart in 4 feet wide beds with a foot or a little wider alley between. The plants, however, do not always winter satisfactorily, and there is no question of glass being the better and in the end cheaper protection. I have two stocks of plants, and for those in hand-lights I prefer a south border, the others being in a frame on an east or west border. The hand-lights are simply wooden boxes about 7 inches in depth, and with loose glazed tops, the sashes being of wood. They are 2 feet square, and are placed 2 feet asunder in the row and between rows. Each hand-light holds thirty plants at 4 inches apart. A dozen hand-lights thus accommodate 360 plants. This means about sixty plants, five under each hand-light, allowed to remain as pricked off for heading, and 300 for transplanting in the open ground when the weather becomes sufficiently genial in the spring or early in April.

A two-light frame, 8 feet by 6 feet, holds about 400 plants, pricked out or in 3-inch pots. The soil should be rich and friable, and if well mixed with some maiden loam, in which leaf mould or thoroughly decomposed manure has been incorporated, all the better. In the case of hand-lights on a sloping border, positions should be made for them quite level. For frames the soil must be filled in to about 6 inches from the glass, or, if in pots, about 8 inches therefrom with sifted ashes.

The pricking off should be done by the early part of October, always before the seedlings become crowded, selecting the best plants, clear in the leg or stem, and with a perfect central axis. Plant just up to the seed leaves, and close the soil firmly about each plant. When completed give a good watering to settle the soil about the roots, and they will seldom require watering afterwards during the winter. In placing into 3-inch pots a single crock will be necessary, potting firmly up to the seed leaves, and plunge the pots in the ashes to the rims. The ashes should be moist, and the plants watered. Wat ring must be attended to from time to time.

Whether the plants are pricked off in hand-lights and frames or potted, they must be allowed all the air possible, but not too much rain, or they will become sappy, and not able to stand the cold of winter. It is advisable, however, if the weather be dry to keep on the lights for a few days after the plants are pricked off till they root afresh, even shading from bright sun. The less of this consistent with re-establishment the better, for from the time the plants are established in the hand-lights or frames till they are removed from them, when the weather permits in the spring, the aim should be to expose them to as much light and air as can possibly be done. Except in case of heavy rain, they may be left uncovered till frosts occur, when the lights must be put on at night, and removed in the morning as soon as the frost has departed. In very severe weather, when frost continues night and day, the lights must be kept close, and unless covered with snow, dry litter, fern or mats placed on, not removing the protective material until the plants and soil are thawed. As the season advances the plants ought to be more and more exposed, giving plenty of air when there is no frost, and on mild dry days remove the lights altogether. Shortly before planting out the lights should be dispensed with, in order that the plants may be properly hardened. During winter all dead leaves must be picked off.

In March or April, according to the state of the weather, and also taking the locality into consideration, the plants will require transplanting. A warm south border is most suitable, about four plants being planted so as to admit of covering with a hand-glass, to be removed on all favourable occasions. The plants grown in pots are best suited for this kind of work, or for planting where some temporary protection can be afforded, though those lifted with good balls from a frame answer admirably for warm situations in the south early in March, and in the north a fortnight or three weeks later. Air should be given more or less according to the state of the weather. When the plants have grown too high for the hand-glasses, the latter should be raised by placing bricks beneath the corners, turfy loam being packed round the plants up to the lower leaves, and drawing earth against the lower edges of the hand-lights. The top of the hand-lights will require to be removed when the plants become large, and ultimately the whole of it. The remainder of the stock not finding hand-light accommodation can be planted as the weather becomes favourable. Given a distance of 2 feet apart every way in rich soil they will produce good heads in succession to those in the hand-lights.

The object of potting the plants in autumn is to secure transference to the heading quarters with as little check as possible, thus accelerating establishment and a sturdy growth alien to bolting. But

there is another side to the potting system—that of securing early produce. This is effected by transferring some, if not all, of the plants in 3-inch pots to 7-inch early in February, or as soon afterwards as the weather permits. They are then placed in cold pits or a cool, light, airy house, as the plants simply require protection from frost. From such quarters the plants can be turned out in a south border about the middle of April, and heading takes place in due course. By shifting a portion of the plants into 12-inch pots instead of planting outdoors and placing in a wall case or orchard house, feeding with liquid manure, Cauliflowers of the finest quality will be had a fortnight or three weeks in advance of those from hand-lights. Cauliflowers should be cut before the white heads are exposed to the sun and light, or they will quickly open, acquire a bad colour, and be ruined in quality.—G. A.

Select Early Apples.

THERE are two standpoints from which the grower surveys early Apples, either from the position of the cultivator for sale when a certain and a large crop is of paramount importance, or from that of the private grower whose desires are bounded by a certain if sufficient crop. The standpoint of the consumer might also be considered, when quality would form a main feature; but gardeners of all sorts, I am afraid, do not take the question of quality, at least as applied to cooking Apples, into much account. Looking at the matter from the point of view of the private cultivator one is greatly struck when visiting gardens at this time of the year, or later, when inspecting fruit rooms, at the grave want of proportion between late and early sorts, the latter in comparison with the former bulking many times greater. The result is that the Apple supply up to December is abundant beyond ordinary requirements, and from and during January it is meagre, and liable to rapid exhaustion. A drastic and far reaching change is urgently called for in order to bring the late and early supply into proportion with the relative demands of the seasons, and this can be effected only by eliminating early sorts that are too much alike, and which mature at the same time, replacing them with reliable, free-fruiting late sorts. The discussion of which these are may well be left over for the present, when the more pressing question of which are best pre-winter Apples calls rather for attention.

Previous, however, to discussing the relative good qualities of varieties it ought, I think, to be made clear that some Apples, in other respects first-rate, fail when cooked, tested by flavour, the most important of all qualifications. For example, the most excellent Duchess of Oldenburg and Ecklinville, as compared with Early Julian or with Keswick Codlin, are greatly inferior in quality, the first named of these two and Northern Greening being perhaps the most delicious of all Apples. Early Julian, which we find here and there in the north under the synonym of Tam Montgomery, supplies fruit not only fit to eat, but good to eat in July, throughout August and September, when it is a by no means undesirable soft dessert Apple, and keeps in good condition till Christmas, though it is as the earliest culinary variety that those who grow it esteem it most highly. Trees in youthful vigour set enormous crops, which require severe thinning in order to obtain size in those left, and also to prevent the greater portion of the fruit from dropping prematurely, which certainly follows overcropping. As soon as the fruits are sufficiently large to handle they are fit to cook, and they are perhaps most delicious when simply peeled and cored and baked in a hot oven. Nothing is known of the history of this Apple or of its names. Dr. Hogg thought "Julyan" to be the preferable name; but against that we may set the fact of a "St. Julien" Apple appearing in French works of the latter part of last century. George Lindley describes it as a Scotch dessert Apple, though it is not to be found in the lists published by Scotch writers on gardening. The tree requires a warm soil.

Keswick Codlin, less grown now than its good qualities entitle it to be, crushed out of cultivation the old English Codlin, a larger though softer fruit, and a less prolific tree. Like the last variety, Keswick Codlin succeeds best on a warm soil, which must be preserved in a highly fertile condition to insure the production of really good fruit. When a constant supply of young bearing wood is provided to replace worn-out branches no Apple produces fruit in such bountiful profusion, and thinning to a slight extent is necessary while the fruits are yet small to prevent them squeezing each other, and also to provide space for those left to swell. The fruit is in condition to use from August till January, and it may be preserved for months later, though that is hardly desirable with plenty of more seasonable varieties to supply demands in winter and spring. The crop should be gathered, in detail, in August, to thin the fruit and ease the tree of its burden. In September the bulk of the crop is ready to gather, though individual fruits still immature should be left, when they will

swell to a large size, and may be gathered with late varieties. No variety surpasses this for preserving as jelly. The tree is one of the most suitable for espaliers or for training cordon fashion, and really handsome specimens are secured from either style of training.

We now come to a group of soft early Apples which, coming into use almost simultaneously, causes a glut from mid-autumn to early winter. I have already mentioned Duchess of Oldenburg, which is one of the handsomest Apples and also free-cropping. It was introduced by the Royal Horticultural Society in 1824 from Taurida, Russia, under the name of B rovitsky, and was distributed as a dessert variety. It is perhaps better as a dessert than a culinary sort, but for neither can it be highly commended. In a wet season like the present much of the fruit rots before it is quite ripe.

In Lord Suffield we have an Apple that bids fair to become supreme as an autumn fruit. Unfortunately the tree has of late years become enfeebled, much subject to canker, and the handsome fruits spotty. On trial of Lord Grosvenor I intended to replace it with this variety, but having meanwhile used the knife and pruning saw to some effect, cutting back the worst specimens, and others less badly affected having been trimmed, and young growths encouraged to supply the place of those removed, the trees have done fairly well of late years, and most of those of Lord Grosvenor have been regrafted with late sorts, as I consider the latter has not proved itself a worthy substitute for the former. Ringer, which has the appearance of an improved Keswick, does not make sufficient growth. It, along with Potts' Seedling and Stone's, might be useful for small gardens, but even in these I should be inclined to plant Lord Suffield in preference.

Hawthornden, New Hawthornden, Ecklinville, Stirling Castle, The Queen, and Warner's King are well known examples of a popular section of which it is doubtful if more than one variety, or two at the most, need be cultivated. The first-named is perhaps the oldest of the group, and Nicol, a hundred years ago, stated it to have been found by the poet Drummond at his seat of Hawthornden. The tree requires a holding soil, and neither it nor Stirling Castle succeeds on light soils. The best of all is Warner's King, an Apple of many synonyms, some of which, as for instance, Cobbett's Fall, are not certainly correct. The fruit may be used in August and continues fit onwards till January. Old trees are somewhat subject to canker, and the healthiest sort in this group is undoubtedly Ecklinville.

Cedlin, Peasgood's Nonesuch, and Emperor Alexander are a trio that have been very popular, yet none of them is reliable, the first being so canker eaten that it is on most soils difficult to preserve in life, while the others are shy bearers, and otherwise except for size of fruit, of no great value. The Eve Apple or Manks Codlin when well grown, properly pruned, and a succession of bearing shoots provided, is a capital second early variety for small gardens. When a fair crop is left by thinning the individual fruits attain a medium size, the flavour is good, and the tree rarely fails to crop annually.

Of early dessert Apples we are less wealthy than in culinary, though many people like the latter for eating as well as cooking. The earliest first-class variety is Irish Peach, which comes into use with us in the end of August. The tree requires special pruning, and must not be spur-pruned, but the growths merely thinned, when it carries annually large crops in small clusters towards the ends of the shoots. Fine fruit can only be secured by reducing these to single fruits. The tree assumes a pendant habit, quite distinct from any other. Earlier than this, Margaret, or perhaps more correctly, Magdalen, and Juneating are worth a place. Mr. Gladstone is a fairly good Apple that comes closely on the heels of Irish Peach. Lady Sudeley has made a favourable impression, and James Grieve seems likely to be some a standard sort.

Good second-rate varieties largely grown are found in Devonshire Quarrenden, which crops abundantly; Red Astrachan, somewhat shy to fruit, but of beautiful appearance, even more so than Worcester Pearmain. Kerry Pippin, though small, is so well flavoured that it should find a place in all gardens. It bears best on long shoots, and the tree requires judicious pruning. All the above named sorts are singularly free from the attacks of disease, which so often cripples cooking sorts. Gravenstein, though the tree is unfruitful and uncertain, is so delicious a fruit that it cannot be dispensed with. The branches and shoots should be disposed very widely apart, and by this means the tree assumes a more fruitful habit. In the north, Oslin Pippin, which we find under various forms of spelling in old books, forms a very reliable early dessert Apple. The tree is dwarf and very prolific, and at one time was propagated almost solely from truncheons stuck in the ground. King of the Pippins brings us to the meeting place between early and late sorts, the earlier of this being ready to use sometimes in late October, though it is best in November onwards. To secure really fine fruit the trees should be under-cropped, and as they are very prolific, it is important that very severe thinning should form part of its management. The fruit, moreover, should be gathered, not in the slump, but as it becomes fit and ready.—B.

Violets.

Too often some out-of-the-way corner is the one assigned to the Violet. Presenting little that is gay, its merits seem forgotten at the time it most deserves attention, so that when the season for flowering arrives the result is not always satisfactory, for though the plant is very hardy, and will accommodate itself to most situations, there are some more favourable than others, and it is to these that we ought more particularly to direct our attention, and in a few words detail the practice most likely to produce a good result. Some situations present natural advantages which it would be difficult to imitate, yet much can be done, and the plant, as stated above, is very accommodating. It is not everywhere that it succeeds satisfactorily, and a glance at the places where it does prosper may teach us how to manage it so as to procure a similar result, and perhaps the best way to consider the subject is to trace the plant to its wild state—the original British one inhabiting dry banks by the side of lanes and woods where it blooms profusely in early spring.

The best situation both for the Neapolitan and double and single Russian Violets are those rather stiff soils overlying chalk, and where the plant has an opportunity of enjoying the free air, and not overshadowed by trees, especially evergreens. I am not sure but a slight shading with deciduous trees is beneficial rather than otherwise, as the plant is so liable to red spider in hot summers, and a partial shading from the hot midday sun induces the dew to remain longer on the foliage, and consequently renders the plants less susceptible of injury from this pest. A soil too rich is more likely to produce leaves than flowers, so that manuring too freely is not advisable.

When a new plantation is wanted it is best to make one as soon as the plants are rooted sufficiently to be taken off. The plant generally produces abundance of runners after it has done flowering; and to induce them to root freely, and quickly become plants, it is very good practice to sift some leaf mould or fine soil amongst the growths, and if the weather is dry to water once or twice. Generally it is the end of May before the young plants are sufficiently rooted to be taken off with advantage, when, the ground being previously well dug and prepared, they may be planted in rows about 18 inches apart, allowing a foot from plant to plant in the row. This planting ought to be done in damp weather if possible, and the little after-attention required during the summer is simply to remove any runners or suckers that show themselves. It is better to allow them to grow a little, and then cut them off, so as to encourage the main plant to form a head or crown well set with flowering buds for the ensuing season. It is attention to this that makes a plant tidy looking, and retains it in a condition fit to remove with a ball if wanted in autumn. Observe that a too frequent stopping of all laterals or runners is not such good practice as letting them grow some length, and then cutting them all back; for the pruning of the Violet is something like that of the espalier Apple or Pear tree—to cut off every shoot as it is found is more hurtful to the tree than allowing them to arrive at nearly their growth, and then removing them to enable all the energies of the tree to go to the formation of flower buds (in embryo) for the ensuing season. The Violet, though a herbaceous plant, may be treated exactly the same way, and with a like happy result.

The above treatment, simple as it is, is not the only attention required during summer. The plant being very liable to red spider, means must be taken to counteract it if possible. For that purpose a mixture of sulphur and soot is about the best thing that we have tried, and when any of the leaves turn yellow it is often a sure sign that this pest is at work. A thorough watering when the atmosphere is moist will do good, and when the plants are dry dust them well with the mixture mentioned above. The admixture of soot will render the colour more like that of a healthy plant, and the formation of flower buds will go on more prosperously in proportion as the plant is healthy: by which is meant, that it is supposed to be maturing its tissue in proper time and not prolonging the season's growth, or becoming what may be called gross and leafy. I need hardly add that occasionally moving the ground between the rows is useful also during the early summer season; afterwards I expect the plant will occupy it all.

The forcing of the Violet is far from being at all times a successful operation. The plant is impatient of forcing as generally performed. It may, however, be forwarded considerably by gentle means, not the least being the well and early preparation of the plants the preceding summer, so as to enable the plant to have a period of rest ere it is excited again into growth; for if forced too early leaves only will be the result. The best way is to prepare some plants as directed above, and in October take them up with a ball and plant them in an old Melon bed that has a little bottom heat (but very little) remaining. The plants may be placed tolerably close, and with sufficient soil to enable the roots to have plenty to live upon while the plant is in the frame. They must be near the glass. A little watering at the time will be necessary, but will hardly be wanted afterwards. Violets may also be taken up and forced in pots, and they do pretty well that way.—R. J.

Notes on Blandfordias.

BLANDFORDIAS are charming plants for greenhouses, the usual temperature of which suits them admirably. The flower scape rises above the foliage from 1 to 3 feet, and then produces a terminal cluster of drooping flowers. The time of flowering varies according to the temperature given the plants in their various stages of development, but as a rule the flowers are produced about the end of June or during the month of July. They are propagated by division and from seed. To obtain a stock by the former method would entail a considerable length of time, as suckers are produced very sparingly. When they are produced, however, they should be taken off after flowering, placed singly in small pots, and be given an intermediate temperature until established, and then wintered in the greenhouse.

The stock can be obtained more readily by seed, which is produced freely if a little care is taken during the time the plants are in flower by keeping them where the atmosphere is moderately dry; otherwise artificial fertilisation is necessary. It is, however, wise to give this aid under any conditions. When the seed is ripe it should be sown at once in a small pan or pot well drained, covering the drainage with moss or other suitable material, and when the seeds are sown they should be lightly covered with soil, watered, and placed in heat. The pan should be covered with a square of glass and well shaded until the seedlings appear. When large enough they should be placed singly in 2 or 3-inch pots, and be grown in an intermediate temperature, finally transferring them to 5-inch pots, and subjecting them to the same treatment as established plants.

Blandfordias look well when well grown and flowered in 5-inch pots, which are large enough unless the plants are allowed to grow with more than one crown. When the object is to grow a good-sized plant the suckers should be allowed to remain instead of being removed to increase

the stock. After the plants have flowered they should be repotted and divided if necessary, disturbing the roots as little as possible. If the roots have to be much disturbed in carrying out the operation it is wise to keep them close for a short time. I have potted these plants at different times, but find the operation best performed at this season of the year. A little care should be devoted to the supply of water after they are first potted, and as autumn approaches and the growth is completed less water will be needed. They should not be stored away

under the stages or placed upon shelves to be neglected during winter. They will do in any place under glass during winter where the temperature does not fall below 35° to 40°. Little water will be necessary, but it must not be entirely withheld. In spring they can be assisted with a gentle heat if convenient. But even this is not absolutely necessary. Our plants are only subject to a greenhouse temperature all the year, and flower profusely about July. When the pots are full of roots and the plants are growing, stimulants may be given with advantage, as well as liberal applications of water. The soil most suitable is good fibrous loam and peat in equal proportions, with a few pieces of broken charcoal and plenty of coarse sand. I am confident if amateurs will give these plants a trial they will not be disappointed with the results.

B. nobilis has rich orange coloured flowers shading to yellow at the edge. *B. aurea* has golden yellow flowers; and *B. Cunninghami*,

which is a very beautiful variety, has flowers of rich coppery red, while the upper portion is yellowish green. Plants may be had from a large nurseryman at no great cost. *B. princeps* (fig. 75) is a handsome species, having crimson tubular flowers with a yellow limb.—B. P.



BLANDFORDIA PRINCEPS.

Nature's Winter Forecast.—The Virginian Creeper, the leaves of which usually change into a rich russet hue in the first week of September, is this year as green as at midsummer. This, according to a last century belief, portends a late and mild winter.

Horticultural Shows.

Derby, 12th and 13th.

It has been our lot to visit all the principal exhibitions in the United Kingdom, but for the size of the show which opened in the Meadow Road on the 12th inst. we have seen nothing to surpass it in the arrangement and quality of flowers, fruits and vegetables. Judging from the close competition in the majority of classes and the very liberal prizes offered, the show is one that has a firm hold on horticulturists. Previous to entering upon the main features of the exhibition it may be well to say that the weather was perfect and the gate a record one, whilst the work of the secretaries, Messrs. Sidney Burton and F. Steele, assisted by their excellent stewards, was worthy of the highest admiration.

The exhibits occupied three large tents, the huge circular one, which was chiefly devoted to the groups, presenting a scene of delightfully varied colour. Each competitor had to cover 200 super feet (segment of a circle) to include foliage and flowering plants, the foliage being allowed to overhang the measured line. Prizes of £20, £15, £10, £8, £5, £4, and £3 were offered, and it only goes to show the quality when the redoubtable Mr. Cypher had to take second honours to Mr. Ward, gardener to G. H. Oakes, Esq., Riddings, near Derby. No one would grudge Mr. Ward his victory, for his treatment was distinctly new and original, and we have seen nothing so simply done or an effect at once so convincing. There was the absence of the orthodox mounds, and in their stead the plants arranged in straight lines from moss and foliage covered banks. The plants were splendidly grown, while to relieve the design small plants were worked here and there in the most charming manner without any undue crowding. The second prizewinner, Mr. Cypher, put forth his best efforts, and it would be an injustice to say other wise than that his work was most effectively done. Mr. S. Sharp, Huddersfield, was a capital third; Mr. G. Woodgate, Rolleston, fourth; Mr. W. Finch, Coventry, fifth; and Mr. Vause, Leamington, sixth.

The next class in importance was the decorative dessert table of ripe fruit 8 feet by 4 feet. The fruit had not to exceed twelve dishes in not less than eight kinds, nor more than two distinct varieties of a kind; not more than four bunches of Grapes were allowed. The tables might be embellished with plants in 5-inch pots, epergnes and vases of cut flowers, and by tracings of foliage and table plants. The first prize was awarded to the well known cultivator Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, and where everything corresponded so exactly to the wording of the schedule it would be quite superfluous to say more except that the fruit was of the highest quality and the arrangement excellent. Messrs. A. McCulloch and J. Read were respectively second and third with exhibits that came in for a great share of praise. All through the fruit classes Mr. Goodacre showed fruit that represented the highest cultural skill, and it is questionable whether he was ever seen to better advantage. His wins included for three bunches each black and white Grapes, Peaches, dessert Apples and Pears. The Nectarines from Mr. J. Wadson were splendidly coloured. A grand Melon was raised by Mr. J. Evans, and some capital kitchen Apples by Mr. G. Woodgate.

The vegetables ranked amongst the finest in the land, and critics were given some eye-openers in the way of quality. Onions were handsome, Mr. A. Ruddick winning; while for Carrots Mr. J. Read went ahead. Kidney and round white Potatoes saw Mr. A. Ruddick in the forefront out of a huge competition, and Mr. J. Ward with beautiful Tomatoes. A series of successes came to Mr. G. Woodgate with splendid exhibits of Marrows, Turnips, Parsnips, Cauliflowers, Beet, and Runner Beans. The names of those who so successfully followed were Messrs. J. Read, J. & T. Earp, J. Woodward, A. Stirland, and J. Evans.

Cut flowers formed a bright and attractive show in themselves, and here again the charming air of the Derbyshire district was at once noticeable, the colours being exquisitely developed. Roses were very fair, Mr. J. Wood winning each class. The rapid advance in Cactus Dahlias was never better exemplified, Mr. C. Carrington being victorious, and also for superb doubles, Gladioli, single and double Zonal Pelargoniums, French and African Marigolds; Messrs. Evans, Stirland, and Wood followed. Some choice specimen Ferns were staged by Mr. Ward. A special prize of £3 for a group of tuberous Begonias was taken by Mr. W. Finch with well-grown plants; Mr. W. H. Bond and C. Atkinson were second and third. Mr. J. Norman won with a bouquet and vase or epergne.

The work of the amateurs was throughout worthy of great praise, the exhibits being of the best. Some grand collections of vegetables for the special prizes offered by Messrs. Sutton & Sons were met with, but space forbids the mention of varieties. Mr. T. Smith was first, Mr. J. Read second, and Mr. G. Woodgate third; the arrangement in each case was perfect. The fine specialities of Messrs. Webb & Sons were brought well to the fore for the special prizes offered by the firm, and here again the setting up was beyond praise, Messrs. J. Woodward, J. Read, and W. Merriman being the winners.

Messrs. Webb & Sons had a fine stand of their celebrated seeds, grain, and roots, with a brilliant display of annuals. Messrs. Dickson

and Robinson of Manchester had an effective stand, including seedling Potatoes, Eclipse Swedes, and Mangolds, in addition to samples of seeds. Mr. Edwards of Nottingham had his ware in profusion; then there were the always popular exhibits from Messrs. Harrison & Son, Leicester; Deverill, Banbury; Cheal & Sons, Crawley; Barron, Borrowash; and J. Wood, Burton-on-Trent. To show the perfection of English grown Onions Mr. Thomas Wilkins, gardener to Lady Theodore Guest, Inwood, Henstridge, contributed thirty dishes. Every type was perfect, and a new seedling, between Coconut and James' Keeping, was more than interesting. A special recommendation was worthily granted.

Boston Dahlia Society, September 13th.

Boston (Lincolnshire) can be congratulated upon having made a decided hit on the occasion of its second Dahlia Show. The society is fortunate in having as its leaders some business men of good position in the town, who are also admirers and cultivators of the Dahlia. The secretary, Mr. Thos. J. Pauley, is an excellent worker, and the committee appear to be fully alive to their responsibilities. This year the flowers were arranged in the spacious Drill Hall; but, commodious as it was, it was none too large. There was a good competition in most of the classes, and, as at Wellingborough, several of the foremost growers and exhibitors of the south took their flowers.

The leading class was a champion one. Each exhibitor was required to stage twenty-four blooms of Snow Dahlias and twelve bunches each of Cactus and Pompon Dahlias, and there were four competitors. The first prize fell to Messrs. Keynes, Williams & Co., Salisbury. They had good Show Dahlias, which included Harrison Weir, Gloire de Lyon, Duke of Fife, Mrs. Chamberlain, Emin Pasha, Colonelist, Florence Tranter, W. Keith, William Powell, Eclipse, Dorothy, Duchess of York, Arthur Rawlings, John Walker, Chieftain, Virginal, Rev. J. B. M. Camm, which last sported to a yellow self, Warrior and Mr. J. Downie. Of Cactus Dahlias they had very fine bunches of Cornucopia, Elsie, Ajax, Night, Mary Service, Innovation, Fighting Mac (new), The Clown, Mrs. Carter Paze, Britannia and Magnificent. Their leading Pompons were Sunny Daybreak, Arthur West, Emily Hopper, Tommy Keith, George Binckman, Dragon (new), Edith Bryant (new), Modesty, Nellie Broomhead, Bicchus, Whisper, and Dr. Jim. It was the splendid Cactus which gave Messrs. Keynes & Co. a very few points over Mr. John Walker, who was second. He had decidedly the best Show Dahlias; his Pompons were rather better than those of Keynes & Co., but he fell behind with his Cactus, which were rough. Mr. Walker had of Show Dahlias, finely finished blooms of Wm. Powell, Imperial, Majestic, John Hickling, Mrs. W. Slack, Mabel Stanton, John Forbes (self), Kathleen, J. Forbes, J. C. Vaughan, Victor, Mrs. J. Grieve, Arthur Rawlings, Mrs. Gladstone, Mrs. J. Downie, Duke of Fife, J. Walker, Florence Tranter and Miss Cannell. His leading Pompons, though all were well finished, were Adrienne, Elsie, Tommy Keith, Sunny Daybreak, Dr. Jim, Resbud, Winifred and The Duke. His best Cactus were Juno, Mary Service, Keynes' White, Ruby, Uncle Tom and Britannia. Mr. M. D. Seale, Sevenoaks, was third.

With twenty-four Show or Fancy Dahlias, Mr. J. Walker was first with finely finished blooms of William Powell Colonist, John Hickling, Hero, Mrs. J. Grieve, John Standish, Majestic, A. Rawlings, Frank Pearce, J. Forbes, John Walker, James Vick, Virginal, J. C. Vaughan, Dr. Keynes, Maud Fellowes, and Marjorie; second, Mr. G. Humphries, with Duchess of Albany, Colonelist, Perfection, Thomas Pendered, William Rawlings, Comte de Seaux, Etche Britton, John Walker, Shottesham Hero, Miss Cannell, Mrs. J. Downie, and Mrs. Gladstone; third, Mr. S. Mortimer. With twelve blooms of Show varieties Mr. Walker was again first, Mr. G. Humphries was second, and Mr. S. Mortimer third.

In the amateur division the best twelve blooms came from Z. Ingold, Esq., Boston, who had good blooms of Duke of Fife, Mrs. W. Slack, Perfection, Shottesham Hero, William Powell, and Maud Fellowes; Mr. J. W. Perkins, Boston, was second. Mr. W. H. Rawnsley, Alfred, was first with six blooms, having in excellent character Penelope, S. Mortimer, Maud Fellowes, General Gordon, Miss Cannell, and Nuggets; Mr. Z. Ingold was second. The cottagers had good blooms also, but in common with some of the amateurs' contributions they were not named.

Cactus Dahlias shown on boards made a rare display. In the open division for twenty-four blooms Messrs. Keynes & Co. were first. They had in very fine character Britannia, Magnificent, Progenitor, Elsie, Ruby, Cornucopia, Loyalty, Zephyr, Night, William Treseder, Up-to-Date, Island Queen, J. F. Hudson, Clara, Stella, Harmony, and Keynes' White. Second, Mr. W. Baxter, Woking. With twelve blooms Messrs. Keynes & Co. were again first, having well-finished examples of Elsie, Charles Woodbridge, Britannia, Earl of Pembroke, William Treseder, Eileen Patzer, Clown, and Zephyr. Mr. J. Walker was second with good blooms of Britannia, Stella, Zephyr, Magnificent, Earl of Pembroke, Rubance, Capstar, Elsie, and Alfred Vasey.

With twelve bunches of Cactus, three blooms in a bunch, Mr. G. Humphries was first. He had in good character Major Hobbs, Mayor Weston, Magnificent, The Clown, Cinderella, Floradora (new, wine crimson), Island Queen, Alfred Vasey, J. F. Hudson, and Countess of Lonsdale. Mr. J. Walker was second, his chief varieties were Zephyr, Clown, J. F. Hudson, Britannia, Ruby, and Keynes' White.

With twelve blooms, in the amateurs' division, Mr. W. H. Rawnsley was first with well-developed blooms of Britannia, Starfish, Charles

Woodbridge, Standard Bearer, Falka, Stella, Lovely, and Countess of Lonsdale. Second, Mr. T. Martin, who followed close with Juno, Island Queen, The Clown, Firebrand, Cornucopia, Britannia, and Viscountess Sherbrooke. Third, Mr. J. Moore, Boston. With six blooms Mr. W. Garfitt, M.P., was first, and Mr. W. H. Rawnsley second. The best twelve blooms of Cactus in six varieties, two blooms of each, came from Mr. Garfitt, Mr. H. Lockwood second; neither of the collections were named. With six bunches of Cactus, three blooms in a bunch, Mr. T. Martin was first, and Miss F. Flint was second. Cottagers also showed Cactus in collections of twelve and six blooms. Mr. J. Bell was first with twelve, and Mr. J. W. Perkins first with six blooms.

In the open class for twelve bunches of Pompon Dahlias, Mr. M. V. Seale was first with small, compact, even, perfect examples of Lilian, Ganymede, Ernest Harper, Sunny Daybreak, Douglas, Snowflake, Nerissa, Phoebe, The Duke, Donovan, and two others. Mr. G. Humphries was second. He had, distinct from the foregoing, Irene, Dr. Jim, Rosebud, Bacchus, Tommy Keith, Cecil, and Emily Hopper. Mr. J. Walker was third. In the amateurs' division for six bunches Mr. J. W. Perkins was first, and Mr. L. Lockwood second. Some of the exhibitors had selected large and somewhat coarse blooms. Mr. J. W. Perkins was also first with six bunches shown by cottagers.

Certificates of merit were awarded to Cactus Dahlias Baden Powell and Sandpiper, from Mr. J. Green, the last a reddish Starfish; to Cactus Fighting Mac, rich cerise crimson, from Messrs. Keynes & Co.; to Pompon Doris, from Mr. M. V. Seale; and to Enormous Runner Bean, a very fine, handsome, long, deep green variety from Messrs. W. W. Johnson & Sons, Ltd.

Edinburgh, September 12th and 13th.

THE great Scottish meeting for 1900 was held on the 12th and 13th inst., as in previous years, in the Waverley Market, Edinburgh. Fears were naturally entertained that the drenching, sunless tract of weather for some time experienced in Scotland would have had a serious effect on the exhibition as a whole. They proved groundless, however, and one of the best shows held of late years was the result.

Fruit.

Fruit was largely shown, and generally of excellent quality, though in some classes the competition was less spirited than has previously been the case. Mr. Barnes, Eaton Hall, was, as last year, the only one to stage in the class of a decorated table of fruit. The arrangement which was awarded the first prize was much the same as previously—sprays of various Orchids arranged in three medium glasses for the centre with smaller glasses down each side, and a few sprays of Smilax and Cissus discolor on the cloth comprising the decorative portion, and two baskets of good Grapes, with dishes of very fine Pears, Peaches, Apples, Nectarines, Figs, Melon, and Plums the fruit. For a collection of ten sorts of fruit there were five competitors, Mr. Barnes being placed first with respectively very good Madresfield Court and with Muscat of Alexandria Grapes, grand Princess of Wales Peaches, extra fine Souvenir du Congrès Pears and King of Tomkins County Apples, a Melon, Nectarines, Plums, and Cherries. The second prize was awarded to Mr. Smith, gardener to Earl of Stair, Oxford Castle, who among other good fruits staged excellent Abercainey and Muscat of Alexandria Grapes, good Stirling Castle Peach, Pitmaston Duchess Pear, and Humboldt Nectarine. To Mr. Murray, gardener to Earl of Ailsa, Culzean Castle, the third prize was awarded.

Mr. Day, gardener to Earl of Galloway, Galloway House, Garliestown, secured first for collection twelve hardy fruits; Mr. Williamson, Tarvit, being second. In the corresponding class for twelve dishes orchard house fruit some grand, though not fully ripened examples, were staged by Mr. Beisant, Castle Hnntley, Longforgan, for first prize; Pears Marguerite Marillat and Souvenir du Congrès, and Apple Emperor Alexander being in especial remarkable. Mr. D. Gibson was second, and Mr. Kidd, Cauberry Tower, Musselburgh, third.

The Grape classes were in general remarkably good. Mr. Lunt, gardener to Captain Stirling, Keir House, Stirling, was very successful, his examples of Muscat of Alexandria being remarkably fine. With the last named, in addition to extra fine Madresfield Court and good Alnwick Seedling, Mr. Lunt secured first for six bunches. Messrs. Buchanan, Forth Vineyard, Kippen, being second with Cooper's Black, Alicante, Madresfield Court, and Muscat of Alexandria; Mr. J. Beisant third. The prizes for four bunches, distinct varieties, were secured by the same exhibitors and in the same order. For two bunches Muscat of Alexandria Mr. Lunt was again first and Messrs. Buchanan second, while for two bunches Black Hamburg Mr. J. Mattison, Currie, was first, and Mr. Potter, Whitehall, Cumberland, second, and Mr. Cockburn, Liffness House, Aberlady, third. This was a keenly contested class, the majority of the large number of bunches shown being above the average in quality. The society offered this year a bronze medal for the best bunch of this Grape shown, and so far it was possible to make out, one bunch of Mr. Mattison's secured 7½ points and one of Mr. Potter's an equal number. Possibly both secured a medal.

In the single bunch classes Mr. Lunt was again first for Muscat of Alexandria, for Alnwick Seedling (extra fine), for Madresfield Court (fine), for any other sort with Buckland Sweetwater, and with Muscat of Alexandria for the finest flavoured white. Mr. J. Potter secured first for

Black Hamburg with highly finished cluster; Messrs. D. & W. Buchanan for Alicante; Mr. J. Beisant for Gros Colman; Mr. Anderson, Kailzie, Peebles, for Lady Downe's; Mr. J. Green, Grinkle Park, York, for any other black with fine Gros Maroc.

Melons were plentifully shown, Mr. Lunt being first, and many dishes of extra fine Peaches and Nectarines. For the former Mr. Melville, Whitehill, Lasswade, and for the latter Mr. Smith, Oxenford, was first. Plums were shown as well as other out-of-door fruits, Apples forming a large contribution. The first prize for a collection of twelve varieties was secured by Mr. Barnes with grand examples of Peasgood's Nonesuch, The Queen Melon, King of Pippins, Beauty of Bath Melon, Gascoyne's Scarlet, Lady Sudeley, Royal Jubilee, Gloria Mundi, and Lord Derby; and for the corresponding class confined to Scotland, by Mr. J. W. Carnegie, Roselea, Prestwick. A vast number of single dishes were well shown. For a collection of twelve varieties of Pears Mr. Barnes was again successful beyond his fellow competitors; Mr. Day having first for the best Scottish grown Pears in six varieties. As with Apples so with these, the single dishes were well contested.

Plants and Flowers.

Of plants there were about the usual number, but these do not bulk largely as a rule at the autumn show. The only exhibitor of a table of plants was Mr. Wood, who, along with this, secured first also for four stove or greenhouse plants in flower, and for three Cypripediums and four exotic Ferns. Mr. Sharp, Freeland, Perth, secured first in each instance for four and one Orchid, which, by the way, were shown in very limited numbers. Mr. Lunt was very successful in the classes devoted to foliage plants, having been awarded first for six plants, for six in 9-inch pots, and for two Crotons. In addition to these the classes for Begonias, Fuchsias, Pelargoniums, and Lilliums were generally well competed.

Cut flowers formed an important feature of the exhibition, and of these none were so effective as the "tables" of hardy plants, 15 feet long by 5 feet wide, the number of bunches not to exceed fifty, and "own" foliage only employed in setting up each kind. Messrs. James Cocker & Sons, Aberdeen, secured the first prize with a choice lot in which Lilliums, Montbretias, Gladioli, Helianthus, and other good autumn flowers were prominent. Messrs. Harkness & Sons, Bedale, second with a grand lot, in which Gladioli, Pyrethrum, and Tritomas were well shown. Messrs. Kerr, Bros., Dumfries, were third. A collection of Dahlias, any varieties, space 7 feet by 5 feet, with their own foliage and buds, called forth the ingenuity of the competitors in devising means to show the greatest number to advantage. Messrs. Kerr, Bros., were first here, and Messrs. Jones & Sons, Shrewsbury, second. Dahlias exhibited in the usual way were largely shown, Mr. J. Smellie, Bushby, taking the first prizes in Show and Fancy classes. Roses must have been blooming abundantly, judging from the quantities shown. For thirty-six blooms, distinct varieties, the struggle lay between Messrs. Cocker and Mr. Hugh Dickson, Belfast, the Irish Roses in the end coming out first. Mr. Dickson was again first in the class for eighteen blooms. Messrs. Croll, Dundee, second. For twenty-four Tea Roses Messrs. Adam & Craigmyle, Rubislaw, were first, and Messrs. Croll second.

Messrs. Cocker secured first place for twelve vases Roses, H.P. excluded. There were also many single "dozen" Roses, all bright and fresh. In the gardeners' class Mr. W. M. Melville, The Cottage, Newton Mearns, was first for twelve Roses, and Mr. Brydon, Innerleithen, for twelve Teas. It was pleasing to see the old Hollyhock looking up once more. For twelve blooms of these Mr. Keith, Wellington Gardens, Cambo, was first, as also for six. Hollyhock spikes were shown by Mr. Downie, Pinkhill. Gladioli were extremely well shown by several exhibitors, but Sweet Peas were less fine than usual. Without referring to these and many other flowers, note may be made of decorated tables, open to ladies only, the one to which the first prize was awarded being a tricoloured arrangement from Miss Geddes, Murrayfield; Mrs. Duncan, Fogo, being second with Sweet Peas, Gypsophila, and Smilax.

Vegetables were less largely shown than is usual, but the quality generally left nothing to be desired. Mr. Gibson, Danesfield, Heris, secured first for a collection of ten sorts, in which Leeks, Celery, Onions, and Cauliflowers were the best, some of the roots were rather overgrown. Mr. J. Waldie was second for these, and Mr. Ray, Sunlaws, Kelso, third. The usual vegetables in season were also largely shown in single dishes.

Non-competitive Exhibits.

These were so numerous that it is not possible without encroaching on space to do more than give a brief description of the more interesting and valuable. To not a few experts the Grapes from Messrs. D. & W. Buchanan, Forth Vineyard, Kippen, would most strongly appeal. Along with a number of clusters of highly finished Alicante, examples of their seedling Diamond Jubilee were conspicuous. This was also shown in a basket, and along with it Forth Vineyard, another seedling remarkable for its large berries with median suture. In another exhibit a curiously grizzled-looking Grape was staged. The contribution of Messrs. Sutton & Sons, Reading, composed of examples of vegetables of their high-class strains—e.g., Ailsa Craig Onions, Al Celery, Imperial Cucumber, and Scarlet Runner Bean Best of All, with Melons, dwarf or bedding Asters, Streptocarpus, and Gesnerias—lost nothing from the effective manner in which it was presented to the public.

Autumn flowers were very largely contributed by, among others, Mr. R. Bolton, Carnforth; Messrs. Jones & Sons, Shrewsbury; and Mr. H. Eckford, Wem, each staging large and varied selections of Sweet Peas. Mr. Campbell, Blantyre; Messrs. Cocker & Sons, Aberdeen; Lister & Sons, Rothesay; and T. M. Whitehead, Selkirk, in each case herbaceous flowers, along with Carnations, Pansies, and Dahlias; Mr. Forbes, Hawick, grand masses of Phloxes, Pentstemons, and dressed Carnations; Mr. Irvine, Jedburgh, glorious Pentstemons; Messrs. Storrie & Storrie, Dundee, Begonias; Laird & Sons, Dahlias; Messrs. Wells & Co., Ltd., Redhill, Surrey, a large selection of Chrysanthemums. Messrs. Dobbie & Co., Rothesay, displayed blooms of the various sections of Dahlias in an artistically arranged group, finding place among these for huge bunches of cut Roses and Marigolds.

Important groups of strictly herbaceous flowers were contributed by Messrs. Cunningham, Fraser & Co., Edinburgh; Harkness & Sons, Bedale; and by H. Deverill, Banbury; and Carnations by Messrs. Laing & Mather, Kelso. Tables of plants were arranged by Messrs. Grieve & Sons, Edinburgh, along with Pansies; and handsome circular groups by the following firms:—Messrs. Cunninghame, Fraser & Co., a grand lot of shrubs along with hardy Heaths, and China Roses; Mr. Downie, Pinkhill, stove and greenhouse; Messrs. R. B. Laird & Sons, Ltd., an artistically arranged mass of Bamboos, Palms, and the more dwarf tropical vegetation, and another of Conifers; Messrs. Methven and Sons, Warriston, a bold group of Lilies springing from broad masses of Crotons and Caladiums. Tomatoes in numbers were staged by Messrs. Dobbie, and grand lots of Stirling Castle and Laird's Supreme Tomatoes by Mr. Charles Page, Liberton. Messrs. Wallace & Co., Colchester, sent Lilies in choice autumn sorts.

The weather throughout was supremely fine, and the attendance of the public, as usual, large and gratifying. The Floral Committee gave an award of merit to white self Carnation Miss F. Sutherland; and to Mr. Forbes' Begonia Caledonia.

Royal Aquarium Dahlia Show, September 18th, 19th, and 20th.

THE exhibition organised by Mr. R. Dean on behalf of the Royal Aquarium Company was in every respect a splendid success. In practically the whole of the classes there was strong competition, and the general average of excellence in the flowers was exceptionally high. A notable absentee in the amateurs' section was Mr. Fellowes of Hitchin, who has been so conspicuously successful this season; the grower was there in person, but unhappily his flowers were absent. Mr. Thos. Pendered of Wellingborough was prominent amongst provincial visitors. The most beautiful display in both the professional and amateur sections was made by the Cactus varieties, which were superb. Pompons were almost equal in quality, but singles were comparatively few in numbers. All the arrangements connected with the show were admirably carried out.

Nurserymen.

There were five competitors in the class for twenty-four Show and Fancy Dahlias in distinct varieties, and many handsome flowers were observed in the stands. The premier position was adjudged to Mr. John Walker, Thame, with J. Hickling, Daniel Cornish, Mrs. Chas. Noyes, Comte de la Saux, Golden Gem, Shirley Hibberd, Duchess of Albany, Purple Prince, A. Rawlings, Shotesham Hero, Chieftain, J. T. West, J. Cocker, J. Walker, Earl of Ravensworth, Colonist, Miss Cannell, Victor (superb), Muriel Hobbs, Wm. Rawlings, Mrs. Gladstone (superb), Imperial, Comedian, and J. C. Vaughan. The flowers were of excellent quality throughout. The second prize was accorded to Mr. G. Humphries, Kilgton Langley, Chippenham, whose best flowers were Arthur Rawlings (superb), John Walker, Duchess of York, Earl of Ravensworth, Daniel Cornish, T. Pendered, Crimson King, and Shotesham Hero. Messrs. Keynes, Williams & Co., Salisbury, were third with a stand of smaller flowers. Mr. M. V. Seale, Sevenoaks, was the only exhibitor in this class, and secured the leading award for twelve Show and Fancy varieties, distinct, with Mrs. Saunders, Chieftain, Maud Fellowes, John Forbes, Miss Cannell, J. T. West, Purple Prince, John Hickling, R. T. Rawlings, Victor, Mrs. Gladstone, and S. Mortimer. This was an even and most creditable stand.

Cactus Dahlias were beautifully shown by the various growers. For twelve distinct, arranged in bunches of six blooms each, Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, were placed first of the five exhibitors. The flowers were of superb quality. The varieties were Galliard, Artus, Mrs. J. J. Crowe, Rosine, Vesta, Uncle Tom, Elsie, Dinorah, Lyric, Tessa, Vida, and J. W. Wilkinson. Messrs. J. Stredwick & Son, St. Leonards, were second with Mr. Jowett, Uncle Tom, Jealousy, General French, and Britannia as their best. Messrs. Keynes, Williams & Co. were a good third.

In the class for twenty-four Cactus Dahlias, distinct, staged on boards in the same manner as the Shows and Fancies, there were eight competitors, of whom Messrs. J. Stredwick & Son were placed first with a most admirable stand of flowers. The varieties were Britannia, Uncle Tom, Up-to-Date, Innovation, Mr. Jowett, Countess of Lonsdale, seedling, Magnificent, Debonair, Zephyr, seedling, Mrs. Carter Page, Bessie Mitchell, Eclipse, General French, seedling, Goliath, two seedlings, Viscountess Sherbrook, Major Weston, Mr. T. Walsh, Sunshine, and J. Weir Fife. Messrs. J. Burrell & Co. were second with Ignea, Uncle Tom, Casilda, J. W. Wilkinson, Mrs. J. J. Crowe, Galliard,

Dinorah, and Vida as the best flowers. Messrs. Keynes, Williams and Co. were third.

The chief prize for twelve distinct Pompon Dahlias, shown in bunches of ten blooms each, went to Mr. M. V. Seale for an excellent stand. The varieties were Spitfire, Lilian, Tommy Keith, Doris (new), Donovan, The Duke, G. Brinckman, Ernest Harper, Ganymede, Emily Hopper, Douglas, and Nellie Broomhead. Mr. C. Turner was an excellent second with Zerlina, Sunny Daybreak, Snowflake, Ganymede, and Emily Hopper as his best. Messrs. J. Burrell & Co. were third. There were five entries in this class, and the competition was very keen.

Single Dahlias have not the popularity to which the beauty of some of the varieties undoubtedly entitles them. For twelve varieties in bunches of six blooms there was only one exhibitor, and the premier prize was taken by Mr. M. V. Seale, who showed Edie Oblien, Demon, Alice Nicholson, Huntsman, The Sirdar, Snowdrop (new), Clara Oblien, Yellow Queen, The Geisha, Victoria, Alice Seale, and Leslie Seale. This was a refined stand.

Open to All.

A most interesting class was that for three vases of Cactus Dahlias, each containing nine blooms, arranged with any kind of foliage. Either one variety only, or a mixture of varieties in a vase could be employed at the option of the exhibitor. There were three competitors, and the first place was assigned to Mr. M. V. Seale with a most attractive arrangement of good flowers; foliage was slightly overdone. Messrs. Keynes, Williams & Co. were second, and Mr. A. Taylor third.

Amateurs.

In this section there were only one class for Show and Fancy Dahlias. This was for twelve varieties, distinct, and the chief prize was won by Mr. E. West, jun., with Perfection, Rebecca (self), Florence Tranter, Chieftain, Geo. Rawlings, W. Powell, Frank Pearce, Mabel Stanton, Harrison Weir, Hero, J. Walker, and Arthur Rawlings, all in excellent form. Mr. T. Hobbs, St. Marks Road, Bristol, was second with a most creditable exhibit. The third prize was adjudged to Mr. R. Burgin, St. Neots. There were six competitors.

In the class for nine varieties of Cactus Dahlias, in bunches of three blooms each, there were seven competitors. Mr. H. L. Brousson, jun., Sidcup Place, Sidcup, was an excellent first with beautiful bunches of Loyalty, Zephyr, Viscountess Sherbrooke, Maurice Walsh, Mrs. J. J. Crowe, Uncle Tom, Mary Service, J. F. Hudson, and Countess of Lonsdale. Mr. F. W. Sharp was second with Casilda, Mary Service, J. F. Hudson, Magnificent, and Countess of Lonsdale as the best. Mr. W. Mist was third.

For twelve blooms Cactus Dahlias, distinct, shown on boards, the competition was very keen. Mr. E. West, jun., Frieth, Henley-on-Thames, was placed first with Gleadless, Countess of Lonsdale, Ethel, Britannia, Mary Service, Lady Penzance, Starfish, Chas. Woodbridge, Radiance, True Friend, Violet Cornish, and Harmony. This was an excellent stand. Mr. R. Burgin, St. Neots, was second with smaller and less typical flowers. The best were Radiance, Mary Service, Harmony, Lady Penzance, and Keynes' White. Mr. F. W. Sharp, Waltham St. Lawrence, Twyford, was placed third with a poor exhibit. There were seven entries in this class.

Mr. H. A. Needs, Horsell, Woking, secured the leading award from the remaining two exhibitors for one vase of twelve blooms of Cactus Dahlias arranged with any kind of foliage. The arrangement was very artistic, and excellent flowers were used. Mr. W. Mist, Ightham, was a poor second, and Mr. A. Taylor, Vernon Terrace, East Finchley, third.

The first prize in the class for six Pompon Dahlias, shown in bunches of six blooms each, was taken by Mr. R. Burgin, who staged Bacchus, Geo. Brinckman, Emily Hopper, Tommy Keith, Captain Boyton, and Eurydice. Mr. W. Mist was second with Geo. Brinckman, Emily Hopper, and Bacchus in good form. Mr. A. Taylor was third. There were five entries in the class.

In the class for six single Dahlias, six blooms of each, Mr. E. Mawley, Rosebank, Berkhamstead, was placed first with Victoria, Miss Roberts, Tommy, Aurora, Demon, and Polly Eccles in superb form. Mr. W. Mist was second with good examples of Beauty's Eyes, Miss Roberts, and Minnie. Mr. R. Burgin was a close third. There were four exhibitors in this class.

Non-competitive Exhibits.

A magnificent display of Dahlias was arranged by Hobbies, Ltd. (J. Green), Dereham, who relied upon Cactus varieties for their stand. The best were Red Rover (superb), Mrs. J. J. Crowe, Uncle Tom, Lucius, Mrs. Carter Page, Zephyr, The Clown, Ranji, Britannia, Innovation, Green's White, Radiance, Lady Roberts, and Major Weston. The Devon Chrysanthemum Nursery, Teignmouth, sent Sweet Peas, Show and Cactus Dahlias, and Zonal Pelargoniums, the latter being particularly good. Hardy flowers were contributed by Mr. E. F. Such, Maidenhead. They were shown in good variety and quality.

Dahlias were splendidly exhibited by Mr. J. T. West, Brentwood. All sections were represented, but the Pompons were of conspicuous excellence. The best were Darkest of All (superb), Sunny Daybreak, Adelaide, Primrose, Nellie Broomhead, Nerissa, Whisper, and Bacchus.

The best Cactus were Mrs. J. J. Crowe, Radiance, Progenitor, Britannia, Magnificent, Loadstone, Mrs. Carter Page, and J. F. Hudson. The best Shows and Fancies were J. T. West, Arthur Rawlings, Baden Powell, Dr. Keynes, John Hickling, Warrior, and Maud Fellowes. Messrs. J. Peed & Son, Norwood, contributed some excellent blooms of double and single Begonias.

Messrs. H. Cannell & Sons, Swanley, were represented by a beautiful stand of Cactus Dahlias, shown in bunches, with Gypsophila between. The best varieties were Magnificent, Uncle Tom, Mrs. Carter Page, Dr. Nansen, Alfred Vasey, Britannia, Radiance, Countess of Lonsdale, J. F. Hudson, Zephyr, Ebony, Emperor, Mrs. Holford, Cornucopia, Mrs. J. Goddard, and Firebrand. Cannas were also grandly shown by this firm. Messrs. A. Young & Co., Stevenage, arranged hardy flowers in considerable variety.

A most artistic group of miscellaneous foliage and flowering plants was arranged by Mr. H. J. Jones, Lewisham. There were admirably grown Bamboos, Crotons, Ferns, Cannas, Caladiums, Palms, tuberous rooted Begonias, and Moonlight Begonia, the latter having distinctive merit. Mr. Edwards, Nottingham, showed his Edwardian ware, which with Ferns growing therein, was of much beauty. Messrs. B. S. Williams and Son, Holloway, sent a new white decorative Dahlia named Snowflake.

Mr. M. V. Seale showed in this section Cactus, Show, and Fancy Dahlias of good quality, arranged with various foliage and Physalis. Mr. T. S. Ware, Feltham, contributed a very large collection of hardy flowers, amongst which Cactus and Pompon Dahlias, Michaelmas Daisies, Lilliums, and Gladioli were conspicuous. Messrs. J. Burrell and Co., Cambridge, exhibited a collection of superb Gladioli, including many new and rare varieties, as well as those that are comparatively well known.

Messrs. Dobbie & Co., Rothesay, arranged a group of Dahlias with Antirrhinums, early Chrysanthemums, Asters, excellent African Marigolds, and other flowers. The Dahlias of the Cactus and Pompon sections were of excellent quality, but the stiffness natural to the latter flowers was accentuated by the formal arrangement of the bottle-like mounds. Excellent Cactus varieties were Magnificent, Loyalty, Mrs. J. J. Crowe, Green's White, Uncle Tom, Up-to-Date, Starfish, Exquisite, Cycle, Loadstone, and Mrs. Carter Page. Of Pompons the most conspicuous were Little Dorrit, Fashion, Douglas, Tommy Keith, Bacchus, Midnight, Demon, and Sunny Daybreak. Of French Marigolds the striped strain was superb, as was the type of Quilled Asters. Roses and other flowers were also included in this group.



Fruit Forcing.

Vines.—*Midseason Houses.*—Where the Grapes are still hanging careful attention must be given to the ventilation, a little air being admitted constantly, and in cold damp weather a gentle warmth in the hot-water pipes, so as to insure a circulation, or prevent the atmosphere becoming stagnant and moisture being deposited on the berries. When the atmosphere is properly aerated Grapes will become raisins before they will decay, provided care be taken to promptly remove any berries that show indications of decomposition. A moderately moist condition at the roots is necessary to preserve the plumpness of the berries, and will not do any harm while the Vines have leaves in a more or less active state. Laterals should be kept well in hand, and even reduced when growth ceases.

Vines from which the Grapes have been cut may now be divested of their laterals down to the principal buds, even shortening the bearing shoots to a joint or two above the pruning buds, which will tend to plump the basal ones, and the storing of nutrient matter in the adjacent wood. To effect this the old leaves must not be injured, as upon their preservation depends the maturation of the buds and the ripening of the wood. A free circulation of air is necessary, and in the case of young Vines, or where there is the least doubt about the thorough ripening of the growths, fire heat will be necessary. When indications of the maturing of the foliage is manifest top-dressing is best effected, or even earlier when the Vines are weak and unsatisfactory. If the roots are active at the surface, in the old mulching or top-dressing, it will only be necessary to remove the loose material and give a top-dressing of turfy loam with a sixth of sweetened manure and a sprinkling of bone-meal two parts, and one part sulphate of potash, mixed, and about 4 ozs. per square yard, or the advertised fertilisers will answer a similar purpose, that of supplying phosphatic and potassic matter to the soil. If the roots have not penetrated the mulching, remove the soil down to them and apply fresh compost, but not covering them deeply; 2 or 3 inches is sufficient, taking the opportunity to lift any that are deep,

and lay them in fresh material nearer the surface. A moderate watering will be needed in the case of inside borders, but outside ones will rarely need it at this season, and after they have had the benefit of the October rains a covering of leaves and a little litter over them will be all that is needed to exclude frost, which is important for Vines started while severe weather prevails. In the case of borders only partly made, a breadth of 2 feet may be added to the front, choosing dry weather for the operation, and putting the materials together firmly.

Houses of Ripe Grapes.—Hamburgs and all thin-skinned varieties of Grapes require frequent examination for the removal of decayed berries. Damp being their greatest enemy it should be prevented by a circulation of air constantly, the employment of fire heat in the daytime, accompanied by free ventilation, allowing the house to cool before night, and admitting air the following morning sufficiently early to allow the atmosphere to heat gradually, as this being warmer than that of the berries moisture will be deposited upon them.

Late Muscats.—Where these are not thoroughly ripe a rather warm atmosphere by day with a free circulation of air, and enough at night to prevent the deposition of moisture on the berries, will be needed some time longer; indeed, it should be continued until the Grapes are finished, when a gradual reduction of temperature must take place, about 50° from artificial means being necessary for Muscats after they are matured. Moisture must be kept down by a bracing atmosphere, a pent up air with a sudden increase of temperature from sun being sure to induce moisture to condense on the berries, which will cause them to spot, and then the Grapes will speedily decay. A little clean dry straw or matting spread on the inside border is useful in preventing moisture rising.

Late Houses.—The Grapes in these will now have finished, but it is well to make sure that such is the case quite up to the shank of the berries before ceasing the needful aid from fire heat. All late thick-skinned Grapes require a long time to mature after being apparently ripe, consequently a temperature of 55° should be allowed, with a rise 5° to 10° by day, and a circulation of air until the foliage is giving indications of falling, when a temperature of 50° will be sufficient. The inside border must not be allowed to become too dry. If necessary water in the early part of a fine day, and cover with a dry mulch as a safeguard against damp and a repetition of the watering. Outside borders will be quite damp enough from the recent rains, and should be covered with lights preferably, or some other means employed to throw off heavy soaking rains. Where the Grapes are not finished they may be treated similarly to late Hamburgs.

Late Hamburgs.—These finish and colour when it is hopeless to do anything more with the thick-skinned varieties, but they are best finished as soon after this as possible. Where not ripe they should have a temperature of 60° to 65° at night, and 70° to 75° in the daytime, with a circulation of air constantly, not allowing the border to become dry, but giving a good watering if they are only partially advanced in colouring, and mulch with short dry material. Only restrict the laterals to prevent overcrowding, but after the Grapes are finished avoid further extension, yet not reducing the foliage too much, as this assists Hamburgs to keep their colour.

Young Vines.—Those planted this spring or early in the summer will need every encouragement in keeping the foliage clean and healthy; also keep the laterals away from the principal leaves in order that they may have due exposure to light and air, especially those at the base of the canes, so that the buds to which the Vines are to be pruned may be thoroughly matured, and the wood well ripened. In order to insure the ripening of the wood maintain a genial warmth by day with moderate ventilation, and throw the house open at night, except when frost prevails.

The Kitchen Garden.

Protecting Vegetables.—Early in the present month frost was experienced in various parts of the country, and although it did not actually destroy many tender vegetables, it yet gave a severe check to runner Beans and Vegetable Marrows. Those who are anxious to keep up a supply of tender vegetables as long as possible ought to be prepared with mats, frigi domo, and canvas; also benders or a framework of some kind to support these materials well above the plants they wish to protect. Globe Artichokes producing late heads, as many plants are disposed to do this season, ought particularly to be protected. It is too early to move Lettuce and Endive, or to store roots, though Onions should be harvested.

Celery.—Much midseason Celery has already been partially earthed, and as this usually means cessation of watering, the chances are much Celery will suffer badly from drought at the roots. Prior to commencing earthing all the sucker growths and small decaying leaves should be cleared from the plants, all weeds pulled, and a thorough soaking of water, or better still liquid manure, applied. Enclosing the stalks in broad strips of brown paper serves to keep the hearts free of worms, grubs, and soil; and if enough paper is used the blanching will also be effected, or the soil may be banked up round the plants in the usual way. If this trouble cannot be taken with the plants, distribute soot and lime freely about the plants, and when moulding up take good care to well enclose the hearts with the outer stalks; also not to bank up too heavily at first or in advance of the hearts, as this causes bulging.

and splitting at the base. While the dry weather lasts continue to apply water to the sides of the rows, though not quite so often as heretofore. Late Celery should be prevented from spreading too much by a few inches of soil, but there must be no heavy earthing-up as yet.

Mushrooms.—Open-air beds ought to be spawned this month or they may not become productive much before the spring. The manure for these should consist of at least one part of short stained straw to two parts of droppings, and ought to be prepared by fermentation in heaps long enough to get rid of rank heat and noxious gases. The manure in preparation should be turned every day if very hot, and every second day if only moderately so, the aim being to prevent the centre of the heap from attaining to a "white heat." From a fortnight to three weeks ought to be expended on this preparation, and when the manure is fit for use it should be moderately warm, sweet smelling, and somewhat moist. Open-air beds should be formed in a sheltered position, ridge shaped, of any length, 3 feet wide at the base, and the same in height, putting the manure in layers and very firmly, finally rounding off the centre and combing down the sides and ends. Insert trial stakes, and when the points of these can be comfortably held in the palm of the hand, or the temperature does not exceed 85°, the time has arrived for spawning. Do not be parsimonious with spawn or use that which is stale. If the weather is showery after spawning protect with the coarser straw thrown out when the manure was sorted. Three days later, if the heat has not risen, case over with 2 to 3 inches of fine, fresh loam, making this firm. Cover heavily with dry, strawy litter, in particular warding off heavy rains. Successional beds may be made as the manure is fit.



All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Black Currant Fruit Buds not Opening (W. B.).—The cause of the buds not opening is the Black Currant bud mite, *Phytoptus ribis*, which is now infesting the young buds. In a similar case the bushes were completely cleared of the pest by removing all the swollen buds between the present time and the bushes swelling the leaf buds in the spring. The buds were simply extracted from their joint sockets by means of a knife and the thumb, and placed in a galvanised pail smeared inside with paraffin oil, and the vessel emptied as necessary on to a fire. The bushes had somewhat of a skeleton appearance, but new growths issued from the base, and by judicious cutting away or shortening of the old bare branches perfectly clean and fruitful bushes were secured. Close observation was afterwards kept on the buds and all swollen ones removed.

Begonia Leaves Diseased (J. M.).—The leaves are affected by a minute fungus, possibly *Ascochyta* species. It is likely to begin near the centre of the leaf and to spread in all directions. Sometimes rings are produced on the injured tissues, which have the appearance of spots. The disease is a very uncommon one on the Begonia. Early treatment with sulphide of potassium or liver of sulphur, a quarter of an ounce to a gallon of water, has been advised as a preventive, applying with a spray diffuser very lightly to the under side of the leaves, and repeating as new foliage is made. The sulphide of potassium solution also has a good effect on the leaf rust insect, so called, *Tarsonymus begoni*, of which there are traces on the leaves as well as the fungus. The mite, however, is best treated for with dilute tobacco water or nicotine compound. Why not raise a fresh stock and discard the old plant?

Diseased Cucumbers (J. D., jun.).—The fruits are affected, and also the leaves, by the fungus *Glæosporium Lindemuthianum*, syn. *Colletotrichum lagenarium*, which, though most common on Kidney Bean pods, has invaded Cucumber and Melon houses. It is generally considered to prevail most in damp and close structures and under high cultivation. It is correct treatment to keep the soil in a thoroughly moist, but not saturated to soddenness, condition. Whenever the soil inclines to the dry side a thorough supply of water should be given, and no more must be supplied until the soil has become rather dry. When overwatered the plants make a sappy growth, and sometimes show distress under strong light, even when the house is somewhat heavily shaded. We regret not being able to give you any information as regards stopping the disease in the young plants, as it is wholly endophytic, hence not admitting of any external remedial measures.

Melon Stem and Leaves Diseased (P. J. P.).—The stem is quite free as far as we can discover from fungoid disease, but both it and the leaves have been overrun by red spider, which is the cause of the collapse. The pest is chiefly induced by a dry atmosphere, and sometimes also by dryness of the soil. It can only be prevented in pits by maintaining a genial condition of the atmosphere, and due moisture in the soil from the time of planting to that of the fruit changing for ripening. Of course the moisture must be moderated at the time of the fruit setting, and in no case should the soil be made sodden by needless watering, or the atmosphere saturated with moisture. Judicious treatment is the thing, and the lack of proper attention, through illness, during the very hot weather, no doubt was the inducement to attack by red spider.

Peaches and Nectarines to Ripen in Cool House at the End of July or Early in August (W. S.).—You do not mention the number of trees required, but suppose a long succession of fruit is desired, hence name the varieties in order of ripening. Peaches: Waterloo or *Early Louise, *Hale's Early, Large Early Mignonne, Dymond, Goshawk, Grosse Mignonne, Noblesse, Royal George, Princess of Wales, Bellegarde, Sea Eagle, Walburton Admirable, and Golden Eagle. Nectarines: Early Rivers, Lord Napier, Stanwick Elruge, Humboldt, Pineapple, Dryden, and Victoria. Those marked with an asterisk have medium sized fruit; the others have large fruit. If you simply require a supply of fruit at the time named, and large fruited varieties only, then of Peaches: A Bec, Condor, Dagmar, Early Alfred, Large Early Mignonne, Dr. Hogg, and Crimson Galande. Nectarines: Early Rivers, Goldoni, Lord Napier, Darwin, Stanwick Elruge, and Improved Downton.

Pansy Cuttings and Cherry Tree (F. M. K.).—When Pansies have run out of character, through over-flowering or otherwise, cuttings taken from the plants, selecting those springing from the base, will produce flowers of the original size with their proper colour, shape, and markings, if carefully selected. It is largely a measure of good management after propagation. As regards the Cherry tree, Standen's manure applied too liberally would certainly cause the destruction of the roots, also those of other fruit trees in pots, the fertiliser being a powerful one, though a teaspoonful per pot and mixed with soil, applying as a top-dressing, is not likely to do any harm, repeating occasionally. A tablespoonful to a pot is quite another matter, and was no doubt the cause of the Cherry tree suddenly losing its leaves, though it may have arisen from other causes, such as defective drainage, a sodden soil from overwatering, or attacks of red spider. Possibly only the larger roots have life in them, though this hardly seems of much moment, as the branches are dead.

Peach Leaves with Brown Spots (W. H.).—The leaves sent, in addition to being covered with brown spots and patches, are lacking in substance, which shows clearly your tree is in a debilitated state. The direct cause of the spots is sunburn, in consequence of a serious check to the flow of sap. This may have been brought about by dryness at the root, or by the sun shining on exposed parts of the branches. It is also possible that the roots of your tree are attacked by a white fungus, which gradually saps the energies of trees, and in time causes them to die. Examine the roots at once; if no fungus is found water the soil thoroughly, and we think you will soon find improvement take place, and if some of the fruits are removed the others may ripen properly. Even if fungus is found, the watering may bring the tree through this year, but the pest must be destroyed after the fruit is gathered, and the soil also removed. You may also find a number of small lumps on the roots, which are often caused by heavy manuring; these also decrease the vigour of a tree, and anything which does that paves the way to sunburn when bright weather prevails. If matters improve sufficiently to warrant the retention of the tree remove the soil around the roots early in November, and replace it by good turfy loam, to which a sixth of lime rubble and a little soot has been added.

Ulmus pyramidalis (fastigiata) with Hole in Stem (A. M.).—Probably some caterpillar has attacked the tree and caused the exudation of the sap. The most likely delinquent is that of the wood leopard moth (*Zeuzera aesculi*), which does not usually kill the tree attacked, but causes considerable injury, especially when bleeding occurs, as in the case of Elms. The caterpillars may be destroyed by drawing them out of their burrows with hooked wires, or by running a strong wire into the hole and thus crushing them to death. If the wire, when withdrawn, is found to have wet whitish matter on it such would result from having crushed the larva; or, again, if gnawed wood should have been passed out of the burrow up to the time of operation, and no more appears afterwards, it may be supposed the creature is killed, otherwise the operation should be repeated. In the case of the Camperdown Elm bleeding at the base from no visible hole, it is possible that it may be infested by some caterpillar, such as that of the goat moth, *Cossus ligniperda*. It is the habit of the goat moth to lay her eggs at the lowest part of the tree, and the sap oozes out of the tunnels made by the caterpillars. This pest may be destroyed in a similar manner to the wood leopard moth caterpillar, but as you cannot find any hole or holes, dress the base of the tree with nicotine compound or strong tobacco juice, applying by means of a brush, which would certainly have a deterring effect. The bleeding would probably be checked by dressing the wound with patent knotting, styptic, or best French polish, forcing the article used well into wound.

Insect "Clipping" off Leaves and Fruit of Apple and Pear Trees (M. D.).—It is extremely difficult to define the insect from such an imperfect description, but probably it is some weevil, especially *Otiorynchus* species, though the *Rhynchites* family is troublesome by gnawing off the young leaves, fruit, and even branches. Such pests may be destroyed by timely spraying with Paris green mixture, 1 oz. to 20 gallons of water, and this also is the preventive and remedy for the foliage and fruit-eating caterpillars. The spraying should commence as soon as the buds commence unfolding, be repeated just before the flowers open, again as soon as the fruit is fairly set, and then once, twice, or even thrice, at intervals of about ten days, it seldom being necessary to spray after the fruit is half-grown. The spraying must not be carried on too long, as it has a tendency to remain on the fruit unless rains intervene, and may prove dangerous, though no fatal case has been recorded, the article being poisonous.

Packing Cut Chrysanthemums for Market (J. K.).—The small flowers or sprays should be tied up in bunches of twelve, and packed closely together in boxes of a suitable size, which salesmen supply. Line the boxes with tissue paper, and in packing interlace the flowers and stems of the bunches in such a way as to make the most of the space and leave an attractive surface. Specimen flowers on long stems need more careful packing. Begin at one end of the box and arrange a row across it so that they do not crush each other; follow with another row, arranging the flowers close to the former ones, and interlace the stems. After a few rows have been thus arranged start at the opposite end of the box, and cover the bottom to within a few inches of the centre, where the stems of the two sets of flowers will cross each other. At this point place a strong stick, which can easily be secured by "jamming" it between the sides of the box. This will keep the whole of the flowers from shifting their position, even should the box be turned upside down. Only one layer of disbudded blooms on long stems should be placed in each box.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (R. M. D.).—The Apple more closely resembles Lady Sudeley than any variety with which we are acquainted. You did not indicate to which Plum the two samples of young wood belonged. The dark fruit may be Belgian Purple; and the light Early Transparent Gage; these are not given as definitely correct, but as the best we can do in the circumstances. (G. S. R.).—1, Golden Spire; 2, Keswick Codlin; 3, Gloria Mundi; 4, Brabant Bellefleur; 5, Peasgood's Nonesuch. (S. F. C.).—1, Ecklinville; 2, Tower of Glamis; 3, King of the Pippins; 4, Golden Russet; 5, Fearn's Pippin; 6, Rosemary Russet. (G. I. P.).—1, Beauty of Kent; 2, Stirling Castle; 3, Lord Derby; 4, Cellini; 5, Cox's Pomona; 6, Herefordshire Costard.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (W. D. E., Amenter).—We do not undertake to name Roses, which come within the category of florists' flowers; send specimens to the nurseryman who supplied the plants. (A. E. A.).—The specimens should have been legibly numbered. The small leaved is *Thalictrum minus*; the medium leaved *T. angustifolium*; 4, the large leaved, *T. aquilegifolium*. (A. H. A. W.).—1, *Berberis vulgaris*; 2, *Asplenium flaccidum*; 3, *Thunbergia alata*.

(B. R. D.).—1, *Allamanda Hendersoni*; 2, *Impatiens Hawkeri*; 3, *Adiantum concinnum*; 4, *Asplenium bulbiferum*. (J. B.).—*Odontoglossum madrense*.

Covent Garden Market.—Sept. 19th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bushel ...	2 0	3 0	Nectarines, doz. ...	1 6	to 9 0
" cooking, bushel ...	1 6	3 0	Oranges, case ...	10 0	15 0
Cobnuts, doz. lb., best ...	4 0	5 0	Peaches, doz. small ...	1 0	2 0
Damsons, $\frac{1}{2}$ bushel ...	0 9	1 0	" doz., good size ...	6 0	9 0
Figs, green, doz. ...	1 6	3 0	Pears, per case of 36 ...	0 0	2 9
Grapes, black ...	0 6	2 6	" " 48 ...	2 9	3 0
" white ...	1 6	3 0	" " 56 ...	2 0	2 3
Greengages, sieve ...	4 6	6 0	Pines, St. Michael's, each ...	3 0	6 0
Lemons, case ...	10 0	20 0	Plums, $\frac{1}{2}$ bushel ...	1 0	2 6
Melons, house, each ...	0 6	1 6	" Californian, case ...	4 0	6 0
" water, case ...	3 6	5 0	" common, sieve ...	0 6	1 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	1 6	to 2 0	Leeks, bunch ...	0 1 $\frac{1}{2}$	to 0 0
Beans, French, sieve ...	2 0	3 0	Mint, green, doz. bunches ...	2 0	0 0
" scarlet, bushel ...	1 6	2 6	Mushrooms, lb. ...	1 3	1 6
Beet, red, doz. ...	0 6	0 0	Mustard and Cress, punnet ...	0 2	0 0
Cabbages, tally ...	3 0	5 0	Onions, Dutch, bag ...	4 0	4 6
Carrots, doz. bunches ...	2 0	3 0	Parsley, doz. bunches ...	2 0	0 0
Cauliflowers, doz. ...	1 0	3 0	Peas, English, bushel ...	5 0	6 0
Celery, bundle ...	1 0	1 9	Potatoes, cwt. ...	3 0	5 0
Cucumbers, doz. ...	1 6	3 0	Shallots, lb. ...	0 2	0 3
" ndive, score ...	1 6	0 0	Spinach, bushel ...	2 0	0 0
Herbs, bunch ...	0 2	0 0	Tomatoes, English, lb. ...	0 2	0 4
Lettuce, doz. ...	0 9	0 0	Turnips, doz. ...	2 0	3 0
" Cos, score ...	0 6	2 0	Vegetable Marrows, doz. ...	0 6	1 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	1 6	to 2 0	Maidenhair Fern, dozen bunches ...	2 0	to 4 0
Asters, 12 ...	3 0	4 0	Marguerites, doz. bnchs. ...	2 0	4 0
Carnations, 12 blooms ...	1 0	2 0	" Ye low doz. bnchs. ...	2 0	4 0
Cattleyas, doz. ...	6 0	12 0	Odontoglossums ...	3 0	4 0
Chrysanthemums, doz. blooms ...	1 0	3 0	Pelargoniums, doz. bnchs. ...	4 0	6 0
Eucharis, doz. ...	1 6	2 6	Roses (indoor), doz. ...	2 0	4 0
Gardenias, doz. ...	1 0	2 0	" Red, doz. ...	1 0	2 0
Geranium, scarlet, doz. bnchs. ...	4 0	5 0	" Safrano, doz. ...	1 6	2 0
Gladiolus, doz. spikes ...	1 0	2 0	" Tea, white, doz. ...	1 0	3 0
Lilium lancifolium album ...	1 6	2 6	" Yellow, doz. (Perles) ...	1 0	2 6
" rubrum ...	1 6	2 6	" English—La France, doz. ...	1 0	2 0
" various ...	2 0	3 0	Smilax, bunch ...	2 0	4 0
Lily of the Valley, 12 bun. ...	15 0	18 0			

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	to 24 0	Foliage plants, var., each ...	1 0	to 5 0
Arbut Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	" pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each ...	2 6	5 0
Azaleas, various, each ...	2 6	5 0	" pink, doz. ...	12 0	15 0
Boronias, doz. ...	20 0	24 0	" paniculata, each ...	1 0	3 6
Cannas, doz. ...	18 0	0 0	Lilium Harris, doz. ...	8 0	18 0
Orotans, doz. ...	18 0	30 0	Lycopodium, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	8 0	12 0
Erica various, doz. ...	8 0	18 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
Ferns, var., doz. ...	4 0	18 0	Roses, doz. ...	6 0	18 0
" small, 100 ...	4 0	8 0	Stocks, doz. ...	8 0	12 0
Ficus elastica, each ...	1 6	7 6			

Trade Catalogues Received.

H. Cannell & Sons, Swanley.—*Bulbs, Strawberries, and Small Fruits.*
A. Cross & Son, Ltd., Hope Street, Glasgow.—*Flowering Roots, and Fertilisers and Fumigants.*
A. Perry, Winchmore Hill, London.—*Bulbs and Tubers.*
Pinehurst Nurseries, Pinehurst, N.C., U.S.A.—*American Seeds.*
T. Rivers & Son, Sawbridgeworth.—*Fruit Trees, Roses, and Shrubs.*
J. Russell, Kew Road, Richmond.—*Dutch and other Bulbs.*

INTERESTING INVESTIGATION.—Mr. James L. Wood (of Wm. Wood and Son, Ltd.) is visiting some of the principal places in the North on his way to Scotland, where he will investigate the results of fungoid and other diseases on the various crops this season, and the effect that "Velthe" has had upon them. For this purpose it is his intention to traverse the country as far north as Inverness, and afterwards proceed to Ireland. During his journey Mr. Wood will be pleased to make special calls, which may be arranged for by letter addressed to Wm. Wood & Son, Ltd., Wood Green, London. A very concise pamphlet has been published by the firm entitled "The Rational Method of Treating Fungoid Diseases." The book is sent post-free on application.—[ADVT.]



Agricultural Improvement.

SUCH was the heading under which a number of agricultural subjects were discussed by the British Association during its meeting at Bradford. In the multitude of counsellors there is wisdom, says King Solomon, and though such meetings pass away, leaving often little but windy records behind them, yet the farming world should be glad of the interest in its doings which is thus shown by such a distinguished body.

Dr. W. Saunders, director of Canadian Experimental Farms, read a paper on "Results of Experimental Work in Agriculture in Canada under Government Organisation." Canadian agriculture was at such a low ebb in 1884 that the House of Commons appointed a select committee to inquire into the best means of encouraging and of developing the agricultural industries of the Dominion. Under the recommendations of this committee an Act was passed by the Parliament of Canada in 1886 authorising the Government to establish a central experimental farm and four branch experimental farms in different parts of the Dominion, and by 1888 these farms were established and in working order. The experience gained during the twelve years that these farms have been in operation shows that great benefit has resulted from them, that Canadian farming has been greatly stimulated and improved, and as one great result the exports of agricultural produce have enormously increased.

A great feature in the recent history of Canadian farming is the institution and extension of many of our English methods. Having cropped and recropped his virgin soil until there was, metaphorically, nothing left but skin and bone, the Canadian farmer found it quite impossible any longer to farm at a profit in the old way; the land must receive new stores of fertility, or again have a rest from cropping. The depression resulted in the experimental stations above mentioned, and they have done much to inaugurate English systems of farming.

As exhaustion of the fertility of the soil was the chief evil from which they were suffering, so we see that Canadian farmers have largely turned their attention to the use of suitable fertilisers, and valuable information has been afforded them by the Government as a result of searching investigations carried on at the experimental stations.

Yard manure was used both fresh made and well decayed, and it was found that the latter, though it had lost half its original weight in process of decomposition, and should have been in a more favourable condition as a plant food, was weight for weight only of equal crop-producing power to fresh manure. Both were used on exhausted soil, and one requiring large supplies of nitrogen; so as the old manure appeared to have lost half its fertility, we must suppose that it had lost half its nitrogen.

The use of artificials was attended by disappointment, the results were not at all commensurate with the amount of plant food which the various mixtures contained. As the proportion of vegetable matter in the soil had been very much reduced by constant cropping the land contained little or no humus, and so its capacity for holding moisture had been lessened to the great detriment of its crop-producing power, and as the artificials contained no humus they were unsuccessful when used alone.

The growing of green Clover for ploughing in has been found very beneficial to Canadian land. Over large districts both in Eastern Canada and on the coast of British Columbia Clover is grown amongst the cereal crops just as we grow it for the next season's grazing, but in Canada it is grown as a catch crop in the fall after the cereal has been harvested. Clover grows there under such circumstances so rapidly that a dense mat of growth is produced by the autumn, and if this be ploughed in a considerable addition is made to the available nitrogen as well as to the supply of humus.

This system of farming sounds very nice. Growing a corn crop in summer and a recuperative crop in autumn would mean a corn crop every year. Is this to be the way that Great Britain is to feed itself in the future? We fear not. How is the land to be kept clean? The hoe cannot be used after the Clover has been sown, so weeds would perforce flourish until the autumn ploughing, and there could be no effectual cleaning process in winter. The price of Clover, too, What of that? We often have to pay 12s. to 14s. per acre for good

seed. Would not this be too high a price to pay for Clover to plough in during autumn? We should like to know the price of sound Clover seed in Canada. Dr. Saunders does not tell us whether Canadian farmers sow red or white for this purpose.

Experiments in early and late sowings of grain crops have resulted very much as we should have expected. Six sowings were made at weekly intervals, the first being put in the ground at the very earliest practicable time. The results showed most conclusively in favour of the second sowings, which meant practically the earliest which was put in under favourable conditions. A very rapid falling off was shown in the later sowings, as much as 45 and 50 per cent. in the last of all. Barley sowing time here is an anxious and busy one, but what must it be compared to the spring sowing time in Canada, where we are shown that to produce the best results all should be put in during the course of about one week?

Very great importance is rightly attached to selection of good varieties of seed corn in Canada. When some varieties continue year by year to produce double the crop of others it is surprising to find the latter still in cultivation, but if a collection of old-fashioned cereals were required at the present time we do not doubt that old-fashioned farmers could still be found in England growing and able to supply seed of Wheat and Barley that had been grown by them and their fore-elders for half a century or more. There is too much of the spirit of what was good enough for them is good enough for me.

A paper was read by Professor Hall of Wye on growing Sugar Beet in England. As the experts present were strongly of the same opinion as English farmers—viz., that Beet growing here is not worth a trial—it is not worth discussing here; but as Professor Somerville remarked, "The very fact that it is impossible to grow Beet profitably in this country ought to make us satisfied with the present position. If Germany, France, and Austria are content to go on putting their hands in their pockets in order to make sugar cheap for us, it is an enormous advantage to the nation, though the refining interest may suffer.

A discussion on the agricultural labourer only went to prove that his condition has been much ameliorated, but no one explained how farmers are going to pay the enhanced wages.

Work on the Home Farm.

Splendid autumn weather almost makes us wish we had another harvest to get in, labour difficulties notwithstanding. There is plenty of room in the yard for a few more stacks, but we must wait another year and hope next season may be more productive. We are just finishing the thatching, and it is a satisfaction when all is thus made safe from storm and tempest. We may be thankful, much as we find fault with our variable climate, that we are not subject to such storms as that which has just visited Texas.

The whole of the teams are busily employed in the fallows. The Wheat and Oat stubbles were fairly clean this year, so there is not much working required, and one small crop of twitch is likely to be all the produce of it. What there is, however, must be worked to the surface, and either carted off, burnt, or, if sufficiently withered, left to be ploughed in later. We have seen the smoke of twitch burning in several directions lately. We prefer carting off when it can be managed, for the burning of twitch is not considered to be economic farming, but team labour is valuable at this period, and it is just the question whether a pair of horses can be better employed than in carting off stubble and twitch. There is something pleasant about the smell of burning twitch—somewhat of mother earth, perchance.

There is a growing opinion amongst men whose opinions are worth hearing that the Potato disease is likely to make a very permanent mark on the crop of 1900. There is the greatest unanimity amongst growers as to the seriousness of the attack, and also as to the failure of the copper solution to ward it off. At any rate, as regards the haulm the sprayed plots are quite as bad as the unsprayed.

Diseased tubers may be found at every root, and one very large grower on low-lying land has been offering his crop *en bloc* at £10 per acre. On August 1st he would probably have refused £25. Up-to-date seems to have suffered as much as any this time.

Farmers are coming to the conclusion the Turnips are a very great crop; at any rate, those who have been tramping the fields after partridges think so, and sheep are rapidly rising in price. The agricultural returns of live stock show a loss of 600,000 in the country's flocks as compared with last year. We notice one daily journal puts this loss down to the storms in February. We think—nay, we are sure—that it is entirely owing to the failure of last season's Turnips, and we are glad to find the shortage no greater than it is. The crop of lambs was a small one, and was also owing to the shortness of keep.

Threshing machines are not very busy as yet. So far the yield is disappointing, especially of Barley. The amount of tail corn is out of proportion to the best, and the latter is but thin in body. We fear the great brewers will again turn their attention to foreign qualities.

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STRONG PLANTS.

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Journal of Horticulture.

THURSDAY, SEPTEMBER 27, 1900.

Satan's Garland.



WE sometimes hear the remark made that the folks who lived in the earlier centuries of the Christian era did not study Nature much. This is a mistake. Our ancestors, and those of the nations of Europe generally, did study Nature, but of course they did not work upon scientific lines. They brought their imagination, also their superstition, to bear upon the objects they saw around them, animals and plants both, with results that were often very important to them, if they only produce amusement to us. Thus they peopled the air and the earth with spirits, good, bad, or indifferent, and it is no wonder they associated some of these with the plants that appeared in flower at certain seasons of the year, or were otherwise notable. From this it happened that some wild flowers were looked upon as evil omens or objects to be disliked, and some became symbols of cheerfulness or promises of success. Even in the existence of evil forces unseen there was somewhat hopeful, because they would call forth opposing powers working for good. Yet they could not get quit of the fear that mystic influences were often at work against which it was vain to struggle. Really, when we see the extensive destruction of trees in many places which might be left intact, we are apt to wish that people were infected with one at least of the old superstitions, that it is a dangerous or wicked action to cut down any tree needlessly, because each tree is the abode of some spirit.

We might show reason for naming first amongst the plants linked with Satan or his emissaries the Judas Tree (*Cercis siliquastrum*), a foreigner that flourishes as a standard in South England, bearing racemes of purplish Pea-shaped flowers, which are succeeded by curious long pods. These flowers have been used to give a flavour to salads. It is a French and Italian belief that the false apostle hung himself upon this tree, over which his tempter

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held influence. Other trees, however, have been connected with this event, the Willow, for example, and it became not only a symbol of sadness, but a Satanic tree, holding out temptations to suicide. It is a fact that the Willow tribe has often been resorted to by the despondent, possibly because these trees commonly grow near brooks and rivers, so offering a choice of death. Old Maundeville and one or two more assert the Elder was the Judas Tree, an extremely improbable idea, but it had an evil reputation certainly; it afforded a shelter to witches, and was not to be meddled with after dark. Still the Elder was frequently planted in churchyards and cottage gardens, so that the superstitions differed. Or possibly it was this idea that a species exposed to Satanic influence rightly managed might prove by its powers an agency for good. By anointing the eyes with the juice of the inner bark persons were enabled to detect witches anywhere. Also on January 6th, when in some counties devils were believed to be about in great force, by way of safeguard berries of the Elder picked on Midsummer Eve were advised to be kept in the pocket.

Of course, some plants were associated with Satan for various reasons. One of our wild species of Scabious is called the "Devil's Bit," this appellation arising from the premorse appearance of the root, the legend being that in his disgust at its valuable qualities Satan bit off the end. The St. John's Wort, one species or other, was worn as an amulet, specially on St. John's Eve, because it scared away the spiritual performers of deeds of darkness, getting the popular name of "Devil-chaser." And, though some writers declare that Honesty, or Lunaria, was a plant employed by witches, it is ranked amongst the plants which put bad spirits to flight, being valuable, if less so than the Herb Bennet or Avens, "blessed above all other herbs, for the devil flies from a house when a root of the plant is there."

Again, we have an instance in the Rue how a plant might be highly esteemed, and yet to some extent dreaded as one to which evil spirits had recourse. Popularly called the "Herb of Grace," it was used, when made into bunches, for sprinkling holy water. Also the decoction was esteemed a very valuable remedy for weak eyes. Milton describes an angel in the act of clearing Adam's vision by Euphrasy and Rue. Still, the plant served witches for various purposes, and with the Vervain, also said to possess supernatural powers, it formed an ingredient in the witches' caldron. The Vervain was a species held sacred to Thor, and people gathered it while the dogstar was rising. Aubrey and Drayton declare that the Vervain, in the hands of right-minded people, proved a protection against evil spirits and witches. In some parts of Germany a bride was, formerly, presented with a wreath of the plant, which had amongst its imagined qualities that of causing or sustaining affection.

There is to be seen in some cottage gardens where old-fashioned flowers are cherished one that is sometimes called Prick-my-nose, or Love-in-a-mist, and besides these it is the Devil-in-a-bush; the horned capsule of the flower thrusts itself up amid a mass of fringe. We all know the Tritomas, the flower-head of which has the appearance of a poker just taken from the fire, hence the popular name of Red-hot Poker, but about the West of England folks call it the Devil's Poker. Then the Scandix, which is greeted by some as the Venus's Comb, or Shepherd's Needle, bears also the name of the Devil's Darning-needle, all being suggested by the beaked fruit, needle or comb-like. The name of "Satan's Hand" seems to have been given to more than one species of wild Orchis, and Anthyllis vulneraria of our pastures is the Devil's Claws as well as Lady-Fingers. Rich in singular names, the common Arum or Cuckoo-pint is not only Lords and Ladies, but Devil's Men and Women too. He claimed proprietorship over the Sea or Horned Poppy, the Ficus internalis of the Middle Ages, which Ben Jonson joins with other ominous plants in his "Witches' Song:"—

Yes, I have brought to help our vows,
Horned Poppy, Cypress boughs,
The Fig tree wild that grows on tombs,
And juice that from the Larch tree comes.

One of our native Buttercups or Crowfoots (*Ranunculus arvensis*) differs from the rest in having curiously curled fruits. Taken generally, these plants did not bear a good repute; but this species was named after Satan, as suggesting by its fruits, his comb or his chariot wheels, so they said. The Eglantine or Wild Sweetbrier has its Satanic legend. When he was excluded from heaven he attempted to return there by a ladder of its branches; but the plant was kept to the dimensions of a shrub, so in spite he changed the position of its thorns. There seems no reason why the charming Clematis of our hedges should be the "Devil's Thread," yet it is known to some country folks by this name. Nor can we understand why the little Toadflax that festoons hedges and old walls should be called the "Devil's Riband." Plants held sacred to Thor by Pagans afterwards came to be regarded as under Satan's control. Thus the common

Ox-eye Daisy, associated with Thor in North Europe, and thought to afford protection from storms, is about our southern districts styled the Devil's Daisy, though considered to be an anti-febrile in spite of that. From their persistent growth, and the trouble they give to the farmer or gardener, both the wild *Convolvulus* and the Dodder were deemed Satanic plants. Nor can we wonder that most of the Thistles got an evil character, even if the deep-hued species gave security against lightning.

Some people have been surprised to discover that several very beautiful flowers have Satanic traditions; the explanation is that they possess poisonous or deadly qualities, which were believed to be infused by the powers of darkness. The Belladonna, which in favourable spots of our Kentish woods reaches the height of 5 or 6 feet, is by the Bohemians held to be under the special guardianship of Satan, but he may occasionally be drawn from it by inducing him to chase a black hen. Even in England the fruit is the Devil's Berry, and the plant itself the Death Herb. Various Nightshades were also plants connected with witchcraft; the Foxglove, too, and even the little blue Harebell, though the white Campanula was a sacred plant. The Thorn Apple or Datura was the Devil's Apple, because of the strange effects produced upon the eaters of it. In Warwickshire the Ground Ivy has been called the Devil's Candlestick, but how this plant helps to light his pathway during his nocturnal wanderings is not explained. The Aconite, though bearing the name of Monkshood, was at an early period regarded as Satanic, for it had belonged to Thor. Yet we read that the Henbane and Hellebore, though poisonous, were bringers of good luck. Evidently several in the Umbellifer tribe were associated with Satan, *Anthriscus sylvestris* being the Devil's Parsley, and the Hemlock or Conium was avoided.

To find that the Spurges are the producers of "Devil's Milk" does not surprise us, but it is odd that in some parts of England children call most Ferns "Devil's Brushes." One of the old superstitions was that the seed of the Bracken, gathered at a particular time, enabled persons to become invisible if they desired. The Cyclamen was regarded as a plant under evil influences, likely to do injury to anybody who happened merely to step over it; so Gerard tells us that he contrived a cover to his specimens at Holborn, as a caution to strollers about his garden there. There seems to be a suspicion that our favourite esculent, the Love Apple, or Tomato, had something uncanny about it, hence perhaps the idea that with some persons it might cause a dangerous disease. Then the Walnut, surely a respectable tree amongst its brethren, had the repute of being a haunt of evil spirits; this may have been because it was said to be antagonistic to the Oak.—J. R. S. C.



Zygopetalums.

THE following few species of *Zygopetalums* are the best known among those which were formerly known as *Pescatoreas*. These Orchids are very peculiar plants to cultivate, and they are seldom seen in good condition. They form hardly any pseudo-bulbs, the leaves are evergreen and distichous, and the flowers are borne singly on scapes produced from between the leaves. A warm and moist atmosphere, such as that of an East Indian house, seems to suit these *Zygopetalums* best. They must be kept moist the whole year round, not requiring any resting period. Pots, baskets, or rafts will all be suited for their cultivation, with peat and live sphagnum to grow in. When grown well the plants produce many flowers, which, being curious and sweetly scented, lend additional interest to any Orchid collection.

Z. Backhouseianum is a pretty species; petals and sepals creamy white tipped with purple, lip creamy white with a fine yellow ribbed callus. It was introduced from Ecuador in 1877 by Messrs. Backhouse & Son. *Z. bellum* has flowers 3 inches across, sepals and petals pale purple, barred at the tips with darker purple, lip creamy white with a purplish callus. It was introduced from New Grenada in 1878. *Z. cerinum* (fig. 76) has large flowers, sepals and petals greenish yellow, waxy; lip yellow clawed with a large crest inside, which is usually a purple band; leaves about 1 foot long. This is probably the most easily grown species of the section. It was introduced from Chiriqui in 1851.

Z. Dayanum is very much like *cerinum*; petals white, sepals

white tipped with green, lip white, clawed with a purple ruff, the base of the lip rayed with purple, the column yellow with a red base. There are several varieties of *Z. Dayanum*, the two best being *Z. Dayanum candidulum*, a fine white variety with a tinge of purple

lip is three-lobed, the crest is sulphur yellow with purplish brown ridges, column yellow shaded with purple. This is a very fine species introduced by F. Klaboeh from Ecuador, in 1879. *Z. lamellosum*, sepals and petals straw-coloured, lip white shaded by yellow, crest



FIG. 76.—ZYGOPETALUM (PESCATOREA) CERINUM.

in the lip; and *Z. Dayanum splendens*, a dark violet coloured variety. *Z. fimbriatum* is an attractive species, the sepals and petals white with purple tips, lip creamy white spotted with purple and with a fringed margin; the semicircular crest has dark purple ridges. *Z. Klaboehorum* has white sepals and petals, tipped with dull purple; the pale yellow

yellow with chocolate ridges. Introduced from Columbia in 1875. *Z. Lehmanni* is a large-flowered showy species from Ecuador; the sepals and petals are white veined with purple, the lip is deep purple covered with bristling papillæ, the crest has several brown ridges.—

ORCHIDIST.

Ivy and Its Uses.

IVY as a garden plant is much neglected, when we consider the many and various uses to which it may be put in garden decoration. True, Ivy is largely employed for covering otherwise bare walls and fences, where little else will succeed, but such employment as this does not utilise Ivy in the way that its merits deserve. With the 200 varieties that exist much might be done in a decorative manner with this plant. So far as I know, the height to which an Ivy plant will grow has never been determined, as in the case of most trees and shrubs. The growth of Ivy seems to be unlimited as long as it receives no check. The moment the tiniest seedling plant puts forth its first leaf, its natural tendency is upward, and given the least support up it goes, quickly or slowly according to circumstances. We often see the common Ivy up a tree 50 feet high; once it reaches the summit its nature changes at once, giving a crop of blossom and berries. This alteration in growth is owing to the lack of support for its trailing shoots; having nothing to cling to they bend first horizontally, and as their weight increases a check is given to the direct flow of sap, resulting in a change of growth.

Ivies may be successfully cultivated in a purely ornamental character, but they may also be made distinctly serviceable. Under this category comes the drying of damp walls owing to the employment of extra porous bricks or too wide mortar joints. By covering such walls with large leaved varieties like *H. dentata* and *Rægneriana*, both of which have drooping leafstalks, every leaf overlaps its neighbour, making a surface impervious to water. For forming edges to paths, or for covering the soil under tall trees, Ivy will flourish if given deeply dug and well manured soil to begin with. Afterwards the decomposing leaves from the trees above will stimulate the Ivy sufficiently. Dwarf growing varieties on a rockery, whether composed of stones or tree roots, is always a pleasing sight. When Ivy is employed to cover high western walls, a pleasing effect can be secured by intermixing with the Ivy *Ampelopsis hederacea*, Virginian Creeper. The deep green of the Ivy affords an attractive contrast to the bright hue of the *Ampelopsis* when it assumes its ruddy autumn tint. The long leafstalks, too, of this climber will allow the full leaf to project over the Ivy, thus the whole of the bright covering is seen. Instead of covering broad and high walls with one Ivy much more interest would be provided if several varieties were employed in masses or blocks of each. Ivies vary considerably in colour according to the stages of growth in spring, summer and autumn.

Much more might be done in the way of growing round bushy plants laden with blossom and berries for filling flower beds, vases, or even massing in prominent parts of the shrubbery. The varieties *H. Helix* and *H. H. Rægneriana* are capital for this work. Plants trained in this form are easily raised from cuttings inserted in September on a north border. The only point of importance is to be sure that the cuttings taken are from flowering shoots. There is no occasion whatever to graft these varieties to insure bushy plants that will not extend more than a yard each for many years. For the winter decoration of terraces, verandahs, or the cool greenhouse, Ivies in variety may be successfully grown in pots or tubs many years without repotting. An annual top-dressing of rich soil, and regular attention with water during the summer will maintain the plants in a healthy condition.

The propagation of the majority of Ivies is a simple matter. Cuttings 10 inches long, taken from the current season's shoots in September, inserted firmly in rows with a pinch of sand at the base of each on a shady border, quickly make roots and grow into stout plants. In covering walls it is not necessary to go to the trouble of a second planting, as cuttings inserted thickly in prepared soil in their permanent position root readily and receive no check in transplanting. To obtain extra strong plants grow them in pots for a couple of seasons, giving them liberal treatment. The more delicate variegated forms are generally raised by grafting them on to healthy stocks in pots of the Irish Ivy—*H. canariensis*—and by inserting cuttings 6 inches long in pots of sandy soil in a gentle bottom heat in March. Ivy culture is a simple matter; deeply dug, heavily manured, and well drained soil is the principal point, coupled with abundance of water at the roots during dry weather. Occasional applications of liquid manure will hasten the growth considerably.

A selection of varieties might be an advantage to the intending planter. From *Hedera Helix*, the common or English Ivy, many varieties have been raised. For covering tolerably high walls or screens, and especially for low walls or edgings to paths, this is an excellent Ivy, as it gives so many forms of leaf colour. *H. H. canariensis* (Irish Ivy) is the vigorous growing large-leaved form so common on walls. *H. H. dentata* and *H. H. Rægneriana* are two of the best strong growing varieties. The latter under

favourable conditions will extend its growth as much as 6 feet in a season. It, however, does not cling quite so closely as some; hence more attention is required in securing the young shoots as they are made. *H. H. atropurpurea* is one of the most ornamental Ivies in the winter, when the leaves assume a deep purple hue. The growth is compact, the leaves having short stalks. *H. H. maderiensis* has light green leaves, and is vigorous, though compact in growth. Other large-leaved varieties are *H. H. deltoidea*, *lobata major*, *lucida*, and *Willsiana*. Varieties with small leaves, such as *H. H. digitata*, *donerailensis*, *palmata*, *gracilis*, *chrysocarpa*, and *hastata* are extremely useful for the rockery.

Variegated Ivies are much admired. *Marginata aurea* is a distinct and beautiful form; the purple-red colour of the young stems renders this an attractive variety, coupled with its leaves, which are delicately margined with faint orange yellow, tending to red. In *chrysophylla* the variegation appears in patches on the young growth; many of the leaves being wholly deep yellow. This variety should not be given very rich soil in which to grow, as this is liable to arrest variegation. *Argentea major* has broad leaves, which vary from an angular deltoid to a narrow ovate outline. The green portion of the leaf is intensely coloured, with a broad white margin. *Luteola* has a narrow band of rich yellow. *Pallida*, the golden blotched form of the Irish Ivy, is useful, especially where tall and rapid growth is desirable. *Maculata* is perhaps the finest variegated Ivy for pot culture in the grandiflora group.—E. MOLYNEUX.

Fruit at Downside.

DOWNSIDE is the residence of E. George, Esq., and is one of the fine houses abutting on Bristol's magnificent playground, Durdham Downs. Calling on Mr. Ross, the very capable fruit grower who has charge of the gardens there, conversation naturally turned on fruit, and the usual look round was suggested. The present garden has been made and planted, and all the fruit houses erected and borders formed under Mr. Ross's superintendence, and therefore, although no expense has been spared by a generous employer, to him is great credit due for the excellent condition of the crops as a whole, and the fruit inside and out in particular.

It would be difficult to take the fruit in order of merit, but the Grapes are the most important. In the earlier vineries much of the fruit had been gathered of course, but it would be very difficult to find finer houses of Grapes than the midseason and late ones. It is almost useless to particularise, but perhaps the finest of all is Canon Hall Muscat. As everyone who has had experience with it is aware this fine Grape is by no means easy to grow. At Downside it has the run of a very large border, and this is contrary to what is usually considered best for it. But facts speak for themselves, and the results justify the means, for both in bunch and berry they are excellent, and the latter are of that fine amber tint so much admired in this excellent sort.

Muscat of Alexandria, Gros Maroc, Gros Colman, and other varieties are all in their best form. There are grandly finished examples of Alnwick Seedling and Alicantes. Mrs. Pince is not always a success, but it is very fine here. The bunches are remarkably compact, well shouldered, and even in berry, while the weight would average about 7 lbs. to the bunch, a very good average too, considering there are six or seven of these to the Vine. The handsome Madresfield Court is one of the most useful Grapes in cultivation. Mr. Ross thinks highly of it, and the Vines are carrying a large number of splendidly finished specimens.

In the outside fruit department the happy medium has been struck with regard to pruning of Apples and Pears in bush form. They are not allowed to grow wild as some growers appear to think necessary, but on the other hand they are not closely stubbed in, a far worse fault to my thinking than too much freedom. It is useless to give a string of names; all the leading varieties are well represented, but Stirling Castle, Frogmore Prolific, and the newer Allington Pippin seem to stand out as the finest.

Heavy cropping from the first has led to a very satisfactory state of the Peach and Nectarine trees on the walls outside. The growth has not been weakened, but gross wood has been kept down by these means. Personally I thought the crops on the majority of the trees far too heavy for their continued well-doing, but doubtless Mr. Ross, who has them in eye all through the year, is the best judge of this. Elruge and Pitmaston Orange Nectarines are simply crowded with fine fruits, as are Barrington and other Peaches, Stirling Castle being in especially fine form and colour. The crops of outdoor Tomatoes are prodigious, and although there are many other points of interest that could be noted this short account must suffice for the present.—H. R. RICHARDS.

Iris pumila.

THERE are few more interesting flowers than the Irises, and few which better repay a close investigation of their form and wonderfully varied colouring. The Iris has been called the "poor man's Orchid," and, although Orchids are now so cheap as to be almost within the reach of everyone, they need more care than Irises, which can be grown in almost any garden without glass or covering of any kind.

The one under notice is commendable on account of the dwarfness of its habit, as well as for its intrinsic beauty. It is one of those included by Mr. J. G. Baker in his "Handbook of Iridæ" as being in

with flowers of the same form as the well known "German" Irises, but large in proportion to the size of the plant upon which they are produced. It only grows some 4 or 5 inches high, and there are several varieties, including blue, greyish lilac, and yellow. Very frequently *I. pseudo-pumila* is grown for the true *pumila*, but it is a taller plant, and supposed to be either a hybrid or a form intermediate between *I. pumila* and *I. pseudo-pumila*. This dwarf Iris is not very particular as to soil, but, like almost all the Irises, does much better with me in full sun than in shade. This point is the cause of many unsatisfactory results with Irises. *I. pumila* may be propagated by division or by means of seeds. It is widely distributed over a considerable part of Europe and Asia Minor.



FIG. 77.—IRIS PUMILA BICOLOR AND AUBRIETIA LEICHTLINI.

"Series I.," which is composed of the Irises which have for "rootstock a short thick rhizome." It is further placed in Sub-genus VII. or Pogoniris, the characteristics of the sub-genus being given by Mr. Baker as having the "outer segments with the beard down the claw and lower part of the blade." It again is placed in the "Group of *I. pumila*." "Dwarf; spathes one-flowered," with the "tube long," this latter feature distinguishing this species and *I. pseudo-pumila*, *I. suaveolens*, *I. Regeli*, and *I. Potanini* from several others in the same group which have a short tube.

This information is perhaps a little tedious, but may be of value to some, as giving an indication of some of the features of the modes of classification adopted by the eminent botanist who has studied the Irises with such valuable results.

For the reader who prefers a simple account of the flower and what it is like, it may be said that *Iris pumila* is a dwarf flag-leaved Iris,

A most charming and somewhat novel manner of utilising *I. pumila* var. *bicolor* with *Aubrietia Leichtlini* is shown in the illustration (fig. 77). The typical *Iris pumila* can be employed in a similar manner, and in either case the effect is sure to please. As is well known both plants are hardy, and, what is even more desirable, they will thrive in the neighbourhood of towns.—A.

Curl in Peach Leaves.—Prof. Tait, of the Michigan Experiment Station, says that he has perfect success in preventing leaf curl in the Peach tree by the use of a solution of 1 lb. of sulphate of copper in 25 gallons of water, used as a spray from four to six weeks before the buds open, and if every bud is reached there will be no curled leaves. An application two or three weeks before the buds open would be less effectual, and should not be relied upon. After the fruit has set use Bordeaux mixture and arsenic for curculio, brown rot, and leaf blight.

Daffodils in Pots.

THE value of Daffodils for pot culture or for the general embellishment of the conservatory or greenhouse in the early months of the year has been much overlooked. It is strange, too, that while the showier varieties have been lost sight of, the Polyanthus section which includes all those bunch-flowered forms that are, strictly speaking, varieties of *Narcissus Tazetta*, have been grown and forced for their flowers. Very desirable, certainly, are some of these varieties notably the Paper White, *Narcissus Tazetta* var. *papyraceus*, so extensively employed by bouquetists, but they are not to be compared with the great number of good and useful Daffodils which from a decorative standpoint are in their way unique. For the conservatory, from January to April and May, Daffodils may be had, and in the latter months abundantly out of doors.

Method of Culture.

Before proceeding further it may be as well to explain the best method of growing them in pots for early flowering. Those who would have a supply of Roman Hyacinths to bloom early—say from December 1st onward to Christmas—would of course procure the bulbs as early as possible in autumn, and pot and plunge them in the ordinary way out of doors, so that they may make a plentiful supply of roots which will enable them to endure the heat to which they will be subjected by-and-by. A great deal of the after success depends on this alone, and this applies with equal force to Daffodils and *Narcissi* when similarly grown. Pot the bulbs early, and any soil that will suit Tulips, Hyacinths, Fuchsias, and the like will suit the majority of the *Narcissi*. Stand them out of doors on an ash bed, and cover with 6 inches depth of similar material, in which they will be safe for some time to come.

The length of time they should remain will depend on the varieties; for instance, *N. pallidus præcox*, quite a general favourite, may, without forcing, be had in flower in January, when *Chrysanthemums* and many other winter flowers are on the wane, then Daffodils would be not only useful, but very welcome. In mild winters and favoured localities this Daffodil has flowered previous to Christmas, and in more frequent cases in January out of doors. This variety should be placed in a frame from which frost is excluded, and if successional plants are needed some may be on the north side of a wall, and others in a more favourable position. The same treatment will be found to answer in the case of *N. scoticus*, which brings up the succession, and is nearly allied to the first named in general aspect and form.

The Tenby Daffodil.

For a variety producing bold, sturdy, golden cups in February we cannot have a better one than the Tenby Daffodil, *N. obvallaris*. This is without doubt one of the best of all for pot culture and forcing; it is grown by tens of thousands for Covent Garden Market, is highly appreciated, meets with a ready sale, and is always admired. It is specially adapted for pot culture owing to its vigorous and sturdy habit, so that it does not require sticks to keep the foliage in its place, which for some, particularly the varieties of *N. incomparabilis*, that grow taller and with more slender leaves, are needed to keep them from presenting a ragged neglected appearance. This variety may be had in flower by January if the bulbs are potted early and introduced into heat, which should be slight at first, about the middle of December, increasing it after a fortnight or so; but at no time will it be necessary to give more than a temperature of 50°, that is if any value be placed on the bulbs afterwards.

Another reason apart from the safety of the bulbs hereafter, why I do not advise any strong heat to be given them is, that being grown as cool as circumstances will permit, the flowers last a much longer time when expanded than they do if hurried along in strong heat. There is little need for this if the successional varieties be taken in hand as I shall recommend, and worked on judiciously; but if flowers must be had at any risk, then my advice is to get the commonest varieties possible, the loss of the bulbs of which will not be serious, and pot them at the end of July, so that no chance will be lost for their making a start as soon as ready. Such as these may be had in flower at Christmas if plenty of heat be at hand, and after blooming they will be fit for throwing away. Do not attempt placing them in strong heat for a moment unless you are fully convinced that abundance of roots have been made, or the chances are that you will fail in getting them to flower.—N.

(To be concluded.)

Culinary Plums.

THERE is now no scarcity of really good varieties suitable for providing a supply over a long period. The great point the cultivator has to consider is to select suitable varieties for the soil of his locality, as Plums, more than most fruits, give widely different results when grown on different soils. The universally grown *Victoria* is certainly not in the least fastidious in regard to soil, as it will bear enormous crops in light fairly rich soils as well as in strong and chalky loams, but when grown in the latter the fruits are usually larger and of better flavour than those produced on light soils, but this disparity may to a great extent be remedied by feeding the poorer soils liberally. The hard firm wood produced in trees grown in light soils is conducive to fruitfulness, but when hot weather sets in while the fruit is swelling the ground dries quickly, and the crops suffer in consequence, unless fortified by liberal manuring previously, or by supplies of liquid manure at the critical time. In gardens the latter practice may, and often is, carried out, but in large plantations and orchards it can seldom be done.

Pond's Seedling and White Magnum Bonum succeed well on a variety of soils. The former is the most certain cropper of any very large Plum. Being of fine appearance it is excellent for market purposes, and is also quite indispensable in gardens, as the fruit is big and of very agreeable flavour. I have noticed this season that although the markets have been glutted this fine variety has sold readily at higher rates than many others, and for that reason should, I think, be largely planted. White Magnum Bonum is not so sure a bearer, but in some seasons it produces wonderful crops, and is in great request for preserving. Diamond, although an excellent Plum, does not seem to be very largely grown as a standard. In the strong soils of Kent I have seen it bearing very heavy crops, but in other counties it is not so satisfactory, except when grown against walls; I should therefore never care to plant it largely till I had tested its suitability for any particular locality. Too much can scarcely be said in praise of Monarch, as it succeeds in almost any soil, grows vigorously, bears freely, and is of excellent flavour; for both private and market gardens it is an indispensable variety, and will each year increase in favour.

Yellow Egg, a variety which is so largely grown in the Evesham district, is showy, sells well, and bears heavy crops, but is not much grown in other counties. Gasborne's, another yellow-skinned variety, seems to be known everywhere, and on account of its prolificness is a general favourite. Two sterling varieties for ripening in August are Belgian Purple and Rivers' Czar; both crop well when grown in standard form, and are great favourites with market growers. For providing a late supply of medium sized fruits, Wyedale should be planted, as good Plums are appreciated in late October, a time when this variety usually ripens. The following are three good sorts requiring the protection of a wall to insure success: Blue Impératrice, Golbath, and Prince of Wales.

When the fruit is cleared from standard trees, opportunities of doing the necessary pruning often occur, and should be taken advantage of. While the leaves are still hanging it is an easy matter to see where the branches are too much crowded, and shoots which show signs of feebleness can also be readily detected and removed. After such branches have been cut away the others should be sufficiently thinned to allow the light and air to penetrate every part of the tree, and thus accelerate the purposes of wood ripening. When such work is performed early, more time can be devoted in winter to spraying and cleansing the trees from moss. In orchards more attention might with advantage be devoted to manuring before the leaves have fallen, for when trees have been exhausted by carrying heavy crops the buds do not swell to their normal size unless some assistance is given. The consequence is that the following year blossom buds are scanty, or imperfectly developed, and the scanty crop is attributed to the exhausted state of the trees through bearing so heavy a crop during the previous year.

With high feeding Plums should never fail to bear through exhaustion. Spring frosts, drought, and diseases are factors in destroying the prospect of a crop, over which we have but little control, but we can see that trees do not suffer through exhaustion. When abundance of dung is at command, a liberal dressing given early in October will prove of great benefit to the trees. Where manure cannot be obtained, 8 lbs. of basic slag and 3 lbs. of kainit per 40 square yards will also do much good. Half these quantities of chemicals might also with advantage be used in addition to a dressing of manure. Plum trees bear heavy crops more frequently than the majority of fruits, and for that reason a great amount of attention ought to be given to feeding them liberally.—H. D.

NOTES

NOTICES

Recent Weather in London.—On Saturday and Sunday despite forecasts to the contrary, the weather in the metropolis continued warm with brilliant sunshine during the midday hours. On Monday rain threatened but none fell until late in the afternoon, and it did not then continue very long. Tuesday opened clear and cold, but became warm later. At the time of going to press on Wednesday it was dull.

The Benjamin Cant Memorial Fund.—The following contributions have been promised:—The Very Rev. Dean of Rochester, £5; Charles J. Grahame, £2; Rev. A. Foster Melliar, £1; Rev. F. R. Burnside, £1; Geo. Prince, £1; Rev. F. Page-Roberts, 10s.; Rev. H. H. D'Ombraim, £1; Edward Mawley, £1.

Bee-keeping in London.—There was a crowded and interested audience at the Royal Victoria Hall, Lambeth, when Mr. W. Jones Anstey gave a lecture on "Bees and Bee Culture," with special reference to London as a suitable spot to keep the honey-making insects. After tracing the natural history of the bee, its connection with the fertilisation of flowers, and the modern methods of bee-keeping, Mr. Anstey surprised his audience by producing a sample of fine honey taken from a hive in a London garden. Under the lecturer's advice a gentleman at Brixton had successfully stocked two hives. That was last year, and up to the present he has obtained over 60 lbs. of honey of fine quality, while he still has his original outlay intact in the value of the hives and bees.

The Golden Wedding of the Baron and Baroness Schröder.—Baron and Baroness Schröder of The Dell, Bishopsgate, near Windsor Great Park, celebrated their golden wedding on Wednesday. The Baron and Baroness, after attending a service in the German chapel at Dalston in the morning, returned to their country residence, where Mr. Alfred Barber, the Mayor, and Mr. Philip Lovegrove, town clerk of Windsor, presented a congratulatory address from the Corporation. In commemoration of the event the Baron has received from the Queen the decoration of Commander of the Royal Victorian Order, accompanied by an autograph letter from her Majesty. The German Emperor telegraphed his congratulations, and conferred on Baron Schröder the Crown Order of the First Class, and the German Empress presented to the Baron and Baroness a magnificently bound German Bible, with an autograph inscription on the fly-leaf.

White Root Rot.—The Board of Agriculture have directed the attention of the public to a disease likely, if not checked, to prove destructive among fruit trees. The attack is found to be caused by a fungus belonging to the genus *Rosellinia*. The mycelium first attacks and kills the youngest rootlets, and then enters into the larger branches of the root, finally bursting through the cortex and enveloping the roots in a snow-white fluffy mycelium, here and there running into slender cord-like strands, which traverse the soil, and by this means spread from one tree to another. Later black compact masses of mycelium or sclerotia are formed in the cortex of the roots, and from each of these spring several slender spines. In addition to the white mycelium, a very characteristic pale brown or olive mycelium is also present on the surface of the roots, having Pear-shaped swellings at intervals, which swollen portions finally become free. A good method of isolating diseased patches is to cut a narrow trench, from 9 inches to a foot deep, round each, care being taken to throw the excavated soil on the diseased portion, and not outside of it. The disease may be spread by the spores of the fungus, by infected soil carried on the shoes of labourers, by dirty tools, wheels of carts, and animals from diseased centres. Diseased and fallen trees, and especially stumps and roots, should be at once destroyed by burning. The soil surrounding diseased stumps should be burned after the stumps have been removed. Quick-lime should be mixed with the soil in places from which diseased plants have been removed. A second preventive method, which has proved of service in France, is to lay bare the trunk as far below the surface of the soil as can be done without injury to the tree, and to densely coat the exposed trunk and adjoining soil with powdered sulphur. Stagnant water should not be allowed to remain in the soil, as this favours the spread of the fungus.

New York's Flower Market.—The National Convention of Florists, recently held in New York, has started their talk of the need of a public flower market. The idea is certainly a good one. Flowers are more and more in demand, and in certain cases and conditions of life fall little short of taking rank as one of the necessities. A large majority of people in big cities have no other way of getting flowers than to buy them, and they ought to have the same facilities in this as they have for the purchase of vegetables and similar supplies. If a flower market would lower the price, as is to be hoped, it would also still further increase the demand, so that the growers would probably have nothing of which to complain.

September at Kew.—Our incomparable September has given quite a special loveliness to the parks and gardens in and around London, and nowhere can this be seen to better advantage than at Kew. There is something almost unearthly in the still beauty of the whole place. The autumn gold shines, as it were, just through the foliage of the trees and shrubs; the last crop of Monthly Roses makes some of the beds masses of most delicate pink and pale yellow; the air is laden with the fragrance of the Heliotrope, which stands in full midsummer beauty and without so much as a crumpled leaf; the Sedge-bordered lakes are smooth sheets of clear blue crystal, and the wooded parts, with their welcome shade and coolness, suggest the middle of July instead of the end of September. It is only when just before six o'clock the primitive mode of announcing the closing the gates is resorted to, and when the voice, shrill and long-drawn to uncanniness, calls in the distance "All out! All out!" that one remembers how short the days are getting and how soon another summer will have fled. But for the time being no pleasanter day or afternoon could be spent anywhere than in that finest botanical pleasure ground, Kew Garden.—("Westminster Gazette.")

Indian Forest Officers and Botany.—At the Dover meeting of the British Association the following resolution was passed: "That the council be requested to represent to her Majesty's Government the importance of giving more prominence to botany in the training of Indian forest officers." A committee, consisting of Sir W. T. Thiselton-Dyer, Sir George King, Professor Marshall Ward, and the general officers, was appointed to report on this matter, and, as a result to their deliberations, a letter was addressed by the president to the Secretary of State for India. According to the annual report presented to the Bradford meeting, in reply, the president was informed that the attention of the Secretary of State was drawn last autumn to the remarks in Sir George King's address at the Dover meeting, and that he has asked Sir W. Thiselton-Dyer and Sir Dietrich Brandis to look into the matter and advise him in what way the botanical teaching at Cooper's Hill College can be improved and rendered more practical. The report of these authorities will be forwarded, with the president's letter, for the consideration of the Government of India.

Buildings at Chiswick.—Visitors to the old garden of the Royal Horticultural Society cannot fail to note with anything but pleasure, the huge square and singularly ugly block of buildings which has been erected on the north side of the garden, and which towers up to a great height above all other buildings. But this monster erection is not yet nearly complete, and when it is entirely back to the garden wall it will seem then to tower up to an enormous height, dominating and crowding out light and air and everything that is conducive to health. Very soon just such monster erections as these will be seen growing up on the east side, the once pretty arboretum, since known as Devonhurst, having been sold for building. It is only needful for anyone to take stock of these surroundings, and then realise that to propose to retain this area thus enclosed as a suitable garden for the Royal Horticultural Society is a complete farce. Really as a garden for practical worth the place is doomed. Whether it shall also come into the grip of the building octopus, or whether it may be by the local authorities saved as an open space, as a resort for nursemaids and a playground for children, very much apart from its present purposes, has yet to be determined. But it is evident that the place cannot too soon be deserted by the Royal Horticultural Society. This because of the old sentimental associations which cling to the gardens may seem a brutal pronouncement, but no practical and impartial person can come to any other conclusion. Should a new garden be found it is much to be hoped that a real national garden for practical horticulture, one of which the nation may be proud, will be formed. As it is we may well wish to close the gates of Chiswick against intelligent foreigners just now.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Scottish Horticultural Association.—At a meeting of this association held recently in Edinburgh under the presidency of Mr. McKenzie of Warriston, Mr. Eckford gave an interesting dissertation on the Sweet Pea, covering in fact the same ground as was dealt with by Messrs. H. Eckford and C. H. Curtis at the Crystal Palace conference. Several well known and experienced members of the audience made remarks on various aspects of Sweet Pea culture before an interesting and instructive meeting was brought to a close.

Awards at Edinburgh Show.—Gold medal to Messrs. Sutton and Sons; silver medals to Messrs. D. & W. Buchanan, Dobbie & Co., and R. Wallace & Co.; awards of merit to Messrs. Brown Bros. & Co., R. Bolton, M. Campbell, Cocker & Son, M. Cuthbertson, H. Deverill, H. Eckford, J. Forbes, Harkness & Sons, C. Irvine, Jones & Sons, Laing & Mather, A. Lister & Son, C. Page, J. Philips, Storrie & Storrie, Wells & Co., and T. M. Whitehead; and special awards to Messrs. Cunningham, Fraser & Co., J. Downie, J. Grieve & Son, R. B. Laird and Sons, Ltd., T. Methven & Sons, and J. Rowatt.

Cardiff Gardeners' Association.—This society opens its winter session next Tuesday, when Mr. Gerhold will lecture upon "British Residences and Gardens," illustrated with limelight views. The syllabus promises a long and attractive programme extending over twelve meetings. Among the subjects to be treated may be mentioned "Sweet Peas," by Mr. J. C. House; "Chemical Manures on Fruit and Kitchen Garden Produce," by Mr. F. W. Shrivell; "The Rock Garden," by Mr. W. W. Pettigrew; and "Peaches and Nectarines," by Mr. H. R. Farmer. It is to be hoped that the good work of this society will bear fruit a hundredfold by promoting the emulation of its excellent example.

Croydon Gardeners' Society.—During the autumn and early winter months the following subjects will be dealt with:—October 2nd, "Hardy Flowers," by Mr. Scaplehorn; October 16th, "Chrysanthemums," by Mr. M. E. Mills; October 23rd, "A Talk on Horticultural and Botanical Books and Exhibition of Books," by Mr. John Weathers; November 6th, "Hardy Fruit," November 20th, "Cattleyas," by Mr. W. E. Humphreys; December 4th, "Yews: Historical Trees, Clipped, and Hedges," by Dr. Brook Ridley; December 18th, "Advantages and Usefulness of Horticultural Mutual Improvement Societies," by Mr. W. J. Simpson, chairman. The hon. sec. is Mr. John Gregory, 60, Canterbury Road, West Croydon.

Flower Shows in New York.—One of the best and most important lessons taught by the recent horticultural exhibition in New York is that the gardeners and florists of the city and neighbourhood are capable of putting on view a display of plants and flowers, unrivalled perhaps anywhere in the country. With this knowledge at hand, the suggestion of the newly elected president O'Mara (at all times practical, and not more so than on this occasion) that the Florists' Club begin to consider the advisability of holding a flower show in the metropolis in the autumn of 1901, is deserving of earnest thought. No one will question the truth of Mr. O'Mara's comments, that "New York has reached that stage in matters horticultural when she cannot afford to be without an exhibition of these goods at least once a year," and few that give the subject serious consideration but will, says the "Florists' Exchange," share in the sanguineness of the president of the Florists' Club regarding the ultimate success of the venture, when viewed in the light of recent experience—so far as the making of an exhibition is concerned, at all events. The matter of its paying qualities, from an attendance standpoint, may, however, create a little doubt in the minds of some of the less optimistic. The show in the Grand Central Palace, as far as the general public's appreciation of it is concerned, can hardly be taken as a gauge of the city people's interest in such displays, as "society had not yet returned to town," yet there was sufficient evidence that enthusiasm in affairs of the kind was not wanting. With a flower show well advertised, well managed, well presented at a proper season of the year, and a proper admission price, all of which can be done in New York, were it so willed, we believe no fear need be entertained on the score of patronage.

National Chrysanthemum Society.—The following are the dates fixed for the exhibitions of the National Chrysanthemum Society in 1901:—Early autumn exhibition of Chrysanthemums, Tuesday, Wednesday, and Thursday, October 9th 10th, 11th; great autumn competition and fête, Tuesday, Wednesday, and Thursday, November 6th, 7th, 8th; early winter exhibition, Tuesday, Wednesday, and Thursday, December 4th, 5th, 6th.

Colony for Vegetarians.—To the vegetarian—the consistent, constitutional vegetarian—an ordinary menu is a loathsome thing, and a man with whiskers eating ox-tail soup, or even a maiden fair who takes the leg of the chicken in her fingers and gnaws at it, is disgusting. Wherefore the president of the Vegetarian Society of America, Rev. H. S. Chubb of Philadelphia, has, asserts the "Chicago Tribune," gone south to look for a place where the vegetarians may colonise and establish regulations that will conform to their tastes and practices.

Grants for Agricultural Research.—The annual report was issued recently on the distribution of grants for agricultural education and research in 1899-1900, with statements respecting the several colleges and institutions aided and the experiments conducted. The awards to each of the institutions receiving assistance from the Board of Agriculture are set out in the usual form, the total distributed amounting to £7750, compared with an expenditure of £7350 in the year 1898-99. These sums do not include the expenses incurred by the Board in the necessary inspection of the educational and experimental work of the several institutions aided, or of the inspection of the similar work of certain county councils conducted at the request of these local authorities. The totals are also exclusive of the outlay on special investigations now being conducted by certain of the local centres on behalf of the Board.

The Orchards of the West.—The Apple orchards of the West present just now a sight worth travelling many miles to see. Those whom business or late holidays take through the counties of Somerset, Devon, and Worcester—the cider counties—will find plenty to interest them in the orchards visible from the railways. Though the Apples are in many cases very small, yet the yield in quantity is extremely heavy. Trees are laden to breaking point, and the rich ripe fruit is clustered on the branches so thickly as to resemble ropes of Onions. The orchards of the West are perhaps more picturesque than those of other counties. So numerous are they, and so naturally flourishing, that they lend a distinct character to the country. Alike in spring time and in harvest they are the most prominent and attractive features of the landscape. In the spring the delicate snowy beauty of abundant blossom gives promise of the rich, ripe, ruddy harvest of the autumn. Just now the orchards are ablaze with the golds, the reds, the purples of fruit fully ripe and ready to be garnered. All along the Mendips and the Quantocks, and through the many fertile valleys of Somerset—in the combs and on the hillside, on the fat soil of the lowlands—the orchards are, says the "Daily News," freighted with golden fruit. Plums, too, have been abundantly plentiful, and their rich colouring has not yet all disappeared. Nor are the Apples yet picked. When they are garnered the great heaps of fruit gathered under the trees will add fresh interest to the sight.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
September.										
Sunday.. 16	E.S.E.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday..17	S.W.	61.7	60.2	81.0	57.8	0.02	60.0	59.2	58.2	51.5
Tuesday 18	S.W.	64.1	61.2	74.0	51.9	—	60.7	59.5	58.1	43.5
Wed'sday 19	S.W.	58.4	57.2	69.3	52.9	—	60.9	59.8	58.1	43.0
Thursday 20	S.W.	56.2	52.5	69.3	41.7	—	59.5	59.9	58.1	30.7
Friday .. 21	S.S.W.	54.5	51.0	70.5	39.5	—	58.1	59.6	58.1	29.5
Saturday 22	S.S.W.	62.6	55.3	73.2	39.5	—	57.6	59.2	58.1	30.9
		60.9	58.9	72.2	55.7	—	59.5	59.1	58.1	48.2
MEANS ..		59.8	56.6	72.3	48.4	Total 0.02	59.5	59.5	58.1	39.6

A week of dull, dry, warm weather with a very slight shower on the 16th inst.



Groups at Shrewsbury.

I THANK your correspondent "D.," page 269, for his courteous and timely correction of my mistake as to the groups. His assumption that I did not consult the schedule is the right one, and I only made one inspection of them. I find, however, both by speech with other gardeners who saw them, and also by correspondence with others, that I was not singular in my conclusion that they went right through. Mr. Adnitt, one of the hon. secretaries, wrote correcting my error, and I owe him and "D." my best thanks for so kindly putting me and the matter right.—N. H. P.

Apple Lady Sudeley.

MR. GARDINER, on page 272, mentions this remarkably handsome Apple, also a valuable hint as to the pruning of it, and with every word I thoroughly agree. I met with splendid samples a short time ago when in Ireland, the crops on somewhat young trees being extra heavy. As a proof of its quality I particularly noticed that the wasp had made this Apple their particular choice. Some fruits were gathered and eaten, the flavour being most appetising indeed, and the flesh of such a texture as to make it a favourite with all Apple lovers. It certainly does need to be better known to cottagers and amateurs, and our Irish friends speak of it in large terms.—P.

A Chat about Pears.

IN Mr. H. H. Raschen's interesting and instructive comments upon Pears (page 269), exception was taken to Beurré Capiaumont as being of not sufficient merit to be worthy of cultivation. Surely your correspondent's experience of this variety must be of a very limited nature, or the fruit was produced under unfavourable circumstances; as, excepting, perhaps, for its comparatively small size, I have always been led to believe that for flavour it could always command a place on the dessert table. Especially was this the case when I myself grew it against a garden wall—south-west aspect—in South Warwickshire, and was then considered to be one of the best flavoured amongst several of other first-class varieties. In Dr. Hogg's "Fruit Manual" the following extract says—"Fruit, medium sized; flesh, pure white, delicate and fine, buttery and melting, with a rich, vinous, and sugary flavour. A dessert Pear of good quality; ripe in October. The tree is hardy, vigorous, and an abundant bearer, and succeeds well as a standard on the Quince. It is well adapted for the northern parts of our island, where I have seen it bearing abundantly as a standard." Not a bad testimony in its favour I infer, and this apart from its attractive appearance.

Exception is also taken to Trout or Forelle, and which Dr. Hogg's description tends to repudiate—viz., "Flesh white, delicate, buttery and melting, with a rich, sugary, and vinous flavour. An excellent Pear, in use from November till February. The tree is hardy and a good bearer. Mr. R. D. Blackmore says it is very small and hard at Teddington," thus evidently not succeeding everywhere.

On the other hand your correspondent favours Brockworth Park or Bonne d'Ezée, which the "Fruit Manual's" estimate so far ignores as follows:—"Flesh, white, coarse grained, and inclining to gritty, half-melting and juicy, with an agreeable perfume. This is only a second rate Pear. Mr. Blackmore says it is a very poor thing, and useless at Teddington." I may add that the foregoing is also my own estimate of the Pear in question.

I am not acquainted with Fertility, another variety which is also deprecated by Mr. Raschen as a Pear of best quality, and prefers Brockworth Park. The description of its merits in the "Fruit Manual" is as follows:—"Flesh, half-melting or cracking, very juicy and sweet, with a rich and highly perfumed flavour, similar to that of Williams' Bon Chrétien, but not so powerful, and with more briskness. This, for market garden and orchard planting, is one of the most profitable Pears that can be grown." Like H. H. Raschen, I too was surprised at R. Atkins' depreciation of Beurré d'Amanlis and Madame Treyve. Evidently his soil and position must be unfavourable to these generally invaluable varieties. In conclusion, I would remark that Mr. Raschen recommends Easter Beurré, an excellent late Pear on a favourable soil and position. Mr. Blackmore, however, says that at Teddington "it cracks and spots, and is very seldom good." It is, however, not altogether surprising that there should exist such a great diversity of opinion regarding the comparative merits of Pears, considering that no kind of fruit is more influenced by soil and position than the Pear, and much good should arise from these comparative estimates of the fruit cultivated under diverse circumstances.—W. G.

Mr. Bunyard to Mr. Raillem.

REPLYING to "W. R. Raillem's" queries in recent issues of your paper—first, as regards the sudden and complete disappearance of aphides—I have frequently noted this, perhaps for weeks it has been necessary to keep the Vermorel sprayer at work, when suddenly all the millions that previously swarmed depart. I believe this to be due to a fall of temperature; sending the atmosphere too cold for them—such "wintry weather" is not unusual even in summer.

Secondly, as to colour in fruit. It is certain after many years' experience that neither soil, culture, nor sun power, alone or combined, give our hardy fruit that high colour which we all like to see; but I believe that the autumnal rains and dews, combined with a fair windy time, are great and even necessary factors. So far this year we have had the first three, but I expect colour will not be put on until we get some good rains and stiff winds. Possibly ozone is the active agent. Fruit here is two or three weeks later than usual, and the Palace Show will not find Kent at its best.—GEORGE BUNYARD.

Certificating Potatoes.

THE infallible "A. D." deserves my gratitude. It had never struck me that were I a member of the Fruit Committee of the R.H.S. its actions would be above criticism, but as "A. D." says as much it must be true. Yes; perhaps it is unfortunate for the R.H.S. Fruit Committee that I am so distant from London, but it may be fortunate for myself that it is so. Yet, sarcasm aside, will "A. D." tell us what is to be gained by certificating two varieties of Potatoes of which all growers know, and which have become immensely popular without any assistance from the Fruit Committee? It certainly does not say much for the vast experience of this body that the merits of the Potato should remain unrecognised for nearly twenty years. "A. D." writes of the "old body" and the "present body." I know of no distinction between the "old" and the "present," unless "A. D." wishes to infer that he was not a member of the former but is of the latter. It is certain that the awarding of certificates to such old and popular varieties as those mentioned can only depreciate the value of certificates generally. If it is not too late, and the Fruit Committee are anxious to certificate the best and most popular kinds of fruit and vegetables, let them take into consideration the Plums Green Gage and Victoria, with Muscat of Alexandria and Black Hamburgh among Grapes, Marie Louise of Pears, and Ne Plus Ultra among Peas.—W. J. GODFREY.

In Orchardland.

UNDER the above title your esteemed correspondent "G. H. H." (page 270), writes a pleasant article, which, if carefully perused, must cause food for reflection, and perhaps be the means of bringing out new ideas on several points adduced. Referring to the enormous fruit crops, I think all Liverpool gardeners will agree with me that never has so much good and cheap fruit been seen. Strawberries throughout were of the highest quality, while Plums have been so abundant that baskets containing about 24 lbs. of the finest fruit could have been bought almost at the purchaser's own price.

The thinning of Apples, too, is a subject demanding immediate attention from those who wish for the best prices. And this leads on to another thought—viz., the ravages of the codlin moth, which have been the cause of endless trouble to the majority of cultivators this season. Trees carrying heavy crops have been full of the cloudy wool. I feel certain that much of this might be avoided if there were fewer fruits resulting from judicious thinning. The varieties that appear to have been the worst infested are Lord Suffield, Lord Grosvenor, and Potts' Seedling, the enemy being in much stronger force where thinning had not been carried out at all. Not only have I seen it in several gardens, but some good fruits which I saw from Hereford bore unmistakable signs of the pest. If spraying is to help to mitigate the evil, by all means let the information be spread the length and breadth of the land by means of the pages of the *Journal of Horticulture*, technical education committees, and gardeners' improvement societies.

The mention of Potatoes makes one long to be in the position that "G. H. H." speaks of with regard to the dreaded disease, as ominous reports come from various parts of Lancashire and Cheshire, and the breadths of Potatoes with their blackened haulms denote its presence. In Ireland, too, there seems to be the same cry. The beneficial results of spraying I have seen for myself, and a note seems to be struck which ought to bring up a good discussion—viz., the lifting of Potatoes early. You may hear farmers say that labour prevents it being done, and with the scarcity experienced this season it would have been difficult; but I cannot help thinking with "G. H. H." that it is well to have the crop up as soon as growth is completed and not leave them, as is the case so often, to stand the heavy autumn and winter rains. The mystery regarding the tuber is not confined to any one district, but appears to be general. A very old grower asked me the same question, which was so ably brought forward in the *Journal*, but I was unable to answer satisfactorily. Perhaps the scientific readers will answer what to my mind appears to be a knotty point?—R. P. R.

Longford Castle.

THERE have always been, and presumably ever will be, certain estates situated in various parts of the country that have a particularly exalted reputation in the horticultural world, and amongst such must be classed Longford Castle, the seat of the Earl of Radnor, near Salisbury. This position has been attained to by the growth of years under the fostering care of the late Earl and the now Dowager Countess, whose interest in the garden, and indeed in the whole estate, was most profound. Her ladyship especially was particularly keen in all things appertaining to the garden, and the result of this may be seen on every hand. Throughout the entire park, with its many noble trees, large clumps have been recently planted, which as years roll on will add

of such places can, and indeed has, been avoided. The garden, which is slightly sunken, contains about half a hundred beds of various sizes on each side of the central path. At the end furthest from the castle the gates give upon the road, so that many a passer-by may have a glimpse of the beauties within.

The pleasure gardens are of some considerable extent, and it is by no means easy to define the dividing line between them and the woodland walks. As one wanders here and there one may be for a few moments amidst the purest wood scenery, and the next treading smooth lawns with handsome flowering or foliage shrubs on every hand. In one very charming respect the two sections are combined, and that is in the planting of bulbous plants on the grass and beneath the trees with a profusion that speaks volumes for the beauty of those walks in the spring. Needless to say Daffodils are the favourite flowers for this



FIG. 78.—THE FLOWER GARDEN, LONGFORD CASTLE.

beauty and charm to an already splendid estate. Happily both the present Earl, who has served his country in South Africa, and Countess of Radnor follow in the footsteps of their noble parents, in as far as a deep-rooted love of their home is concerned.

Longford Castle itself is depicted in each of the three accompanying illustrations, which render any reference to its ornate character wholly superfluous. Surrounding it on two sides are the pleasure grounds, on the other the river, and on the fourth the superb formal garden with woods and cool shady walks beyond. The present remarkable garden was formed in the earlier years of the present century, the first one having been swept away by "Capability" Brown some few years previously. The two sides are precisely similar in form of the beds, and of course in style of planting, which is not now so severely formal as was once the case; obviously it would not be in keeping to plant it in with mixed flowers, but some measure of the flat geometrical precision

purpose. It is impossible to pass through all the grounds, so we must mention one of the features and then pass on. This is an iron church which finds a place in the grounds near the Castle. Within there is some most handsome carving that was executed by the late Earl, whose labours in the adornment of the sacred edifice were continued well nigh to the hour of his death. The designs are in each case very beautiful.

The fruit department of Longford is splendidly equipped, and for several years constant improvements and alterations have been in progress. New houses on the most approved principles have been erected and few old ones now remain. Within them we find the customary Peaches, Nectarines, Grapes, and Figs, while in the frames are Melons Earl's Favourite. All these fruits are thoroughly well grown by Mr. E. F. Hazelton, the gardener, but the Grapes were perhaps the finest when this visit was paid. Heavy cropping throughout

seems to be the order of the day, and consequently the stock must receive the best attention or it would not stand against the strain. The collection of outdoor fruit is extensive and varied, the best being in the home garden, though there is in addition an ancient orchard a mile or more across the park. Naturally enough all kinds are grown more or less largely in accordance with home requirements. Wall space is very abundant, but there is not much unoccupied, practically the whole of it being given over to fruit in several kinds and forms of trees.

Equal in excellence with the other portions of the estate is the flower department, both indoor and out. In the plant houses one may see many plants, both flowering and foliage, that are comparatively seldom met with in private gardens, and which, of course, add a certain meed of interest to a visit. The Oranges in one house are said to have been there for upwards of 150 years, and if they are not particularly beautiful they will doubtless be kept for their associations. Camellias and Lemons have been almost equally as long. Then, of course, we find the orthodox collections of plants grown for the embellishment of the Castle and for providing cut flowers. Malmaison Carnations are very great favourites, and were making a grand display on the occasion of my visit, which was about the end of June. The most conspicuous plant in the borders at that moment was *Salvia Bluebeard*, which made a really remarkable display. Roses, too, were there diffusing fragrance, as indeed were many other flowers in beds and borders in different parts of the garden.

There is one other feature of the Longford Castle estate to which I should like to draw attention, and that is to the system of maintaining small gardens on behalf of the children of the family. Of course every one knows that in practically all large establishments these plots are set apart, but generally speaking the interest therein is spasmodic, or

in some cases practically absent. At Longford, however, everything is done to create a love for the garden and its beauties, and when this has been engendered no efforts are spared to insure its permanent continuance. To this end the Countess, before she attained to this dignity, and was still the Viscountess Folkestone, might frequently be seen at the pieces of ground allotted to her children, working with and for them amidst the cherished plants. During the whole time that the family is in residence this is a very frequent occurrence, and the consequence is that the children's corner is undoubtedly one of great interest, as well to every visitor to whom it is pointed out as to the several members of the family. Thus is a real love for the home and garden inculcated while the children's minds are the most amenable to such teachings, and the lessons learnt then are seldom forgotten in after life. When there is no one staying in the Castle it devolves upon Mr. Hazelton to have the plots kept free from weeds, but beyond this and supplying some of the plants the gardener does nothing in their cultivation. This I understood had been a constant practice for many years.

With the kitchen gardens and some of the many excellent modes of culture that are adopted by Mr. Hazelton we cannot now deal, richly as they deserve to be treated of in the pages of the *Journal of Horticulture*. If, however, one were to venture to bring forward all the beauties and all the excellences of Longford, one would set about such a task as would keep him industrious for many hours on several days; certainly the present writer cannot pretend to any such undertaking, and is content with the visit and the cursory glance and reference, which he hopes may find repetition in the future. What the future may have in store for this and other notable gardens none can tell, but all such estates tend so much to increase in charm and interest that repeated visits are constant sources of pleasure.—ZINGARI.



FIG. 79.—LONGFORD CASTLE.



FIG. 80.—THE TERRACE, LONGFORD CASTLE.



Tomato Lister's Prolific.—One of the best Tomatoes we have grown this year is Lister's Prolific. We have tried several varieties, but this has proved the best. In pots it was one of the earliest to ripen, a free setter, with medium sized fruit, which are preferred rather than large ones in private places. The colour is of a bright scarlet. Planted in an inside border it has produced an excellent crop, many of the clusters having twenty-five to thirty fruit on, hanging down like ropes of Onions. For myself I should say it is an ideal Tomato for either the private or market grower.—J. B.

Materials for Forming Vine Borders.—The present is a much better time to cut turf than after it has been soaked by the cold autumnal rains. It is a good plan to pare or plough it off and leave for a few days, especially in the presence of clear days and frosty nights. This causes larvae to pass from the cut part into the soil beneath. The top 2½ inches or 3 inches of a pasture where the soil is a good friable loam is suitable for Vines, and should form the staple of the compost. Place it in narrow ridges, sprinkling a mixture of kainit and basic cinder phosphate in equal parts at the rate of 2 ozs. per square yard of reversed turves as they are placed on the heap, and have the top ridged so as to throw off the wet. The lime of the phosphate powder will act favourably on the vegetable matter, and the kainit on destructive larvae, while affording a supply of potash and magnesia, which are essential for Vines, and never over-abundant in turf. Stacking in narrow ridges will aid nitrification, as the formation of nitrates in the turf. Let the site be open and dry.—G. A.

Celmisia Munroii.—The New Zealand flora is productive of many curious and ornamental plants suitable for cool greenhouse culture, and of the number the subject of this note is one of the most interesting. Altogether there are about thirty known species of *Celmisia*, three or four only of which are known in gardens. This is a dwarf-growing plant, forming a dense tuft of leaves 6 or 7 inches high. The leaves individually are very curious. They are strap-shaped, very tough, and 7 or 8 inches long. The upper surface is deep green, sparingly clothed with white silky hairs; the under surface is clothed so densely as to form a thick felt with buff-coloured matted hairs. The flower heads are borne singly on scapes 8 inches long well above the leaves; the ray florets are white, the disc yellow; each inflorescence is 2 inches across. Occasionally in old plants a short stem is produced which becomes quite woody. A mixture of peat and sand forms a suitable compost, and as little fire heat as possible should be given. A free circulation of air is necessary to prevent damping. A plant producing several flowers may be seen in the south wing of the temperate house at Kew.—R. G. K.

Buddleia variabilis.—This is a plant which should be in every garden, as it is easily grown, and makes a grand display of flowers during August. It was introduced from China a few years ago, and to those who have seen it under favourable conditions it has given every satisfaction. There are two forms of it in cultivation, one of which forms a shrub 4 to 5 feet high, and the other a prostrate, spreading plant, which covers a large area in a very short time. Neither of these has been distinguished from the other by a varietal name as yet, though it would save confusion in the future if the upright form were taken as the type, and the other called *B. v. var. prostrata*. In flower and leaf the two forms are identical, but the erect one is by far the better of the two, the other being spoilt by carrying its flowers on or near the ground, where they get covered with dirt by the first shower. It is more suitable for a rockery or a spot where it could grow in such a manner as to display its flowers to the best advantage, and also protect them from injury. *B. variabilis* is hardy enough in the London district, but in the Midlands and North would require a certain amount of shelter in winter. It is easily propagated by cuttings or seeds, the latter being freely produced, and ripening in favourable seasons. The small, tubular flowers are borne in terminal racemes 6 inches to a foot in length, and are of a lilac colour, with an orange coloured throat. The leaves are opposite, ovate lanceolate in shape, 4 to 6 inches long by about 2 wide, deep green above, and covered beneath with a fine whitish pubescence. The edges are coarsely serrated.—C.

Fieldia australis.—Nearly one hundred years ago this Australian plant was in cultivation in English gardens, and at the time when New Holland plants were the rage appears to have been fairly common. Now, however, with many other interesting and beautiful plants common in that time, it has almost ceased to exist in other than botanic gardens. Although not so showy as some other Australian plants, it is interesting and worth growing. It forms a mass of semi-woody shoots, which sometimes assume a climbing habit, has a large quantity of small, very hairy leaves, and greenish-white Bignonia-like flowers, 2 inches long, and freely produced. It thrives well in a cold house, potted in a mixture of peat and loam with plenty of sand. Cuttings of half-ripe wood root readily.—D.

Alpine Gardens.—A mass of greenery dotted over with withered blooms is largely true of our alpine gardens at this season, so that every additional autumnal flowering plant is doubly welcome. This is equally true of herbaceous types in contradistinction to the prostrate habit of hardy plants, as implied by the term alpine. In this category the Rudbeckias are augmented by *fulgida*, whose value lies in the period of flower, as it is not so effective as *Newmani* or *speciosa*. Amongst the prostrate types the *Androsaces* are looking gay, especially *lanuginosa*. This plant thrives apace in Blackheath, Clontarf, in fact it grows like a weed; one clump of it measured at least 4 feet through. *Senecio pulcher* has flowered exceedingly well this season.—A. O'N.

Double Roman Narcissus.—One of the earliest of bulbous flowers for forcing is the double Roman Narcissus, and, fortunately, it is the easiest to manage of the family. Any light soil will do to grow it in, and the usual way is to put three bulbs into a 6-inch pot, or two in a 5-inch pot, and a dozen of such bulbs may be had for half a crown or less. After potting give a good watering and set the pots in some out-of-the-way place, where the heat of the sun cannot reach to stimulate the bulbs to make leaves before they have made roots, for that is the great secret in forcing all kinds of bulbs. The pots should be at least half filled with roots before you can see the bud of leaves, so to speak, in the centre of the bulbs. This double Roman Narcissus roots fast, and when the roots are working freely into the mould, you may take the pots to some convenient place for flowering.—B.

Clove Carnations.—The Clove Carnation is an old favourite, and deservedly so. Every garden ought to have several clumps of this sweet-smelling flower; it is much hardier than the Carnation, and is therefore more easily kept and managed. To increase it, it requires layering exactly in the same way that the Carnation does; but this operation may be done much later in the year on the Clove. Layers of it will succeed even yet, but I do not advise delaying layering beyond the end of this month. If a year-old plant sends out five or six or more shoots, and these are layered now, and those layers are left on the stool to bloom next year, the quantity of flowers will be very large. The Clove Carnation is an excellent plant for bedding, the dark colour contrasting finely with the lawn, or even its own light green foliage; flowering at this season, too, when the Carnation and Picotee are nearly out of bloom, renders it very desirable.—A.

Rubus phoenicolasius.—Though this cannot be recommended as a profitable fruiting plant, it is worthy of cultivation as a decorative subject, it having a distinct and pretty appearance when in flower and fruit. A native of China and Japan, it would probably be none too hardy far north of London, and is seen to the best advantage in the milder climate of the south and west. It is easily cultivated, a moderately rich well drained soil and a sunny position suiting it best. If trained on a trellis or wall it soon covers a large space, and looks extremely handsome when in fruit. It should be pruned in the same manner as an ordinary Raspberry, cutting out the old wood and assisting the young growths as far as possible. It is free growing, a good plant making from eight to twelve or more stout shoots, each 7 or 8 feet long, in a season. The stems and a great part of the leaves are covered with long, slender, reddish, glutinous hairs, which make the plant sticky and unpleasant to handle. The leaves consist of three oval or rounded leaflets, which are coarsely serrated, and of a deep green above, and glaucous white beneath. The flowers are in short racemes, and are small, white, and inconspicuous. The sepals are covered on the outside with the sticky hairs so common to this plant, and as soon as the fruit is set close over it, and do not open again until the fruit begins to ripen. The fruit is of a deep ruby red colour when ripe, is sticky to the touch, and of a pleasant flavour. Birds are very partial to it.—KEWITE.



Forthcoming Shows.

AS is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the respective secretaries:—

- Oct. 9, 10, 11.—ROYAL AQUARIUM.—R. Dean, V.M.H., 42, Ranelagh Rd., Ealing, W.
 Nov. 9, 10.—SHEFFIELD.—Wm. Housley, 28, Joshua Road, Sheffield.
 „ 14, 15.—HULL.—Edward Harland, Manor Street, Hull; Jas. Dixon, F.R.H.S., 2, County Buildings, Hull.
 „ 14, 15, 16.—YORK.—G. F. W. Oman, 38, Petergate, York.
 „ 16, 17.—BOLTON.—Jas. Hicks, Markland Hill Lane, Heaton, Bolton.
 „ 16, 17.—BRADFORD.—R. Eichel, Eldwick, Bingley.

Some of Their Enemies.

IT is when Chrysanthemums have reached their final and most important stage that a sharper look out should be kept in order to checkmate the designs of the enemies incidental to them at this season. They are at the present time in a most vulnerable condition, and should the buds be injured in any way the damage is irreparable. When this occurs it is vexatious and disheartening to see the work of many months simply thrown away, and even worse when it happens, as it frequently does, from purely preventible causes. It is very strange to notice the manner in which earwigs attack the finest buds and leave the smaller ones untouched. I have seen traces of these pests in so many collections that I conclude this season has brought us a more plentiful supply than usual. It will be found advisable to look the plants carefully over after dark, which is the chosen time for their nefarious operations, when with the aid of a light they can be caught and destroyed. Aphides are very troublesome some seasons. When Chrysanthemums arrive at maturity it is difficult to thoroughly eradicate aphides, but a moderate fumigation will serve to keep them from preying on and damaging the buds, while it will not injure the flowers which have opened. Some varieties, chiefly the less vigorous, are very susceptible to attacks of mildew, which spreads rapidly and is very exhausting to the plants. To check it the infected parts should be lightly dusted with flowers of sulphur, air being admitted more freely, and a little fire heat at night will be very beneficial. Different kinds of maggots occasionally form and breed on the under side of the leaves. They soon increase in number and voracity, and should be demolished as soon as observed.

Watering.

A frequent cause of failure with the inexperienced is an inadequate supply of water to the roots. Plants often appear moist on the surface when they are in reality suffering from drought further down. When under glass they do not give the person in charge notice of the fact by flagging and drooping so readily as they do when out of doors and exposed to wind and sunshine. Any doubt on this point can be quickly set at rest by tapping the pot smartly with the knuckles. If the plant is dry the sound will be hollow and ringing, and if wet it will be a dull and heavy one. A little practice will soon accustom the dullest ear to the difference in the sounds by which plants, so to speak, express their feelings.

Trapping Earwigs.

When bamboo canes are used to stake Chrysanthemums the pith inside the cane sometimes decays and falls out, leaving an open aperture extending as far as the first joint. One season we were troubled with earwigs, and all the usual remedies in the way of traps proving inefficient, we were compelled to hunt them at night, and destroy them one by one as caught. But still their hiding places could not be discovered, and flower buds were damaged nightly until the matter became serious. It was quite accidentally that their haunts were discovered. A plant had been killed by overwatering, and the bamboo stake being removed suddenly, several earwigs hastily left their hiding place. An immediate investigation was made and it was discovered that every stake with a hollow top contained several earwigs, the insects in many cases having assisted nature by eating out the pith, and forming a snug retreat some distance down the inside of the canes. The most speedy way of dealing with this state

of affairs, after due deliberation, was thought to be as follows:—A quantity of putty was mixed with a large percentage of red lead, and this was used to fill the holes in the canes caused by the decay of the material forming their centres. The earwigs left alive in the canes thus hermetically sealed down, could not escape, and consequently perished. Since then care is taken to stop all holes with the mixture as soon as they are formed, consequently we have not suffered to any extent from their depredations.—E.

Housing and After Treatment.

EVERY gardener who has a valuable collection of the best varieties of Chrysanthemums is now meditating taking action to remove them safely under cover, especially those plants which have buds well advanced. Even in the absence of rain or frost a considerable amount of moisture condenses upon the plants during the nights when the sky is clear, and though the dew is refreshing and invigorating to the foliage, it has not such a good effect upon opening buds, hence the advice to house forward plants without delay. All the midseason varieties must be dealt with in placing them under cover. Those who possess a structure specially set apart for accommodating plants are in a better position than many who may have to find room for them among a miscellaneous collection of other subjects, and where the best conditions as regards light, air, and temperature cannot be afforded them. In such cases a certain amount of scheming is inevitable.

It should be remembered in housing Chrysanthemums that the plants require to be gradually inured to under glass treatment, and it does not answer to place them in a structure where plenty of air cannot be admitted. The change from outdoor conditions will be felt immensely by the plants if the uninterrupted supplies of air and light are suddenly curtailed to such an extent as would be the case in some structures. An unheated house is best for the plants at first, but if they are to remain in the structure to bloom the means of heating should be available, but not employed more than necessary. Shade from the roof should be absent, but top and bottom ventilation easily and fully given. A little temporary shading may be readily improvised when any special flowers need it. Avoid standing the pots on borders if possible that are set apart for the growth of plants, Vines, or Peaches. The constant demand of Chrysanthemums for water is apt to render the soil of these borders sour and cause other evils. The growth of the Chrysanthemums may also be disorganised by the plants rooting through the bottom of the pots.

Another matter is overcrowding. The leaves are still performing their functions, and require the greatest amount of light, with room to expand and receive it. Crowding causes mildew, yellow foliage, and ultimately dead leaves, which harbour earwigs.

Immediately after housing no stimulants ought to be given for a week until some advance has been made in the swelling of buds. Only supply clean water, and moisten the floor and stages about the plants on very bright days. Leave the ventilators open day and night, the door also if the weather is calm. The supply of water is best given in the mornings, and each plant examined separately unless its wants are clearly apparent. In the event of mildew appearing dust the under sides of leaves with sulphur. For black or green fly in the tips of shoots employ tobacco powder, though vapourising or fumigating is a better means of banishing the pests. Earwigs may be more or less troublesome if brought in with the plants, and a look-out should be kept for them, trapping them by the usual methods.

Disbudding superfluous flower buds on terminal shoots is an operation which requires to be carried on daily for some time. One bud left on each terminal shoot is sufficient if good flowers are wanted. The crown buds of late plants should be taken as they show, that is, the growths immediately round them must be gradually rubbed out. The small side shoots which appear in the axils of the leaves on main stems are superfluous and should be removed together with other stem shoots and basal growths. The feeding and stimulating of the plants may be renewed as soon as buds swell, giving weak doses of clear manure water made from animal manures or soot, varied by sprinklings of artificials watered in. The greatest care must be taken with the weaker rooting varieties.

A certain amount of moisture in the atmosphere and surroundings is beneficial, but any excess will cause damping of the blooms and mildew on the foliage. This may be rectified by the application of artificial heat to dry up the free amount of moisture, using plenty of air at the same time if the weather is clear, but in foggy weather the ventilators will be better closed. In addition to regulating moisture by artificial heat, the judicious use of it assists the blooms to develop, especially those of good substance and deep build, inasmuch as they contain material which, should any checks occur in the development, are peculiarly liable to damping.

Water ought not to be allowed to stand in pools on the floor of any structure in which Chrysanthemums are developing flowers. When the moisture has drained from the pots wipe it up as dry as possible.—E. D. S.

October-flowering Varieties.

THE list of good varieties of Chrysanthemums which may be had in bloom in fine condition during October is by no means a short one, and includes representatives mainly of the Japanese and Pompons. The chief merit of the October-flowering sorts lies in their usefulness for decoration as pot plants and for furnishing cut flowers, but many of the early exhibition varieties can be induced to bloom at their best from the middle of October. Many varieties, however, flower naturally during this month without any special manipulation or selection of buds. In such cases terminal buds are generally found to be the best.

Among the best of the older varieties may be noted *P'Ami Conderchet*, of a lovely yellow colour, quite free in blooming, and useful for cutting. *Madame C. Desgranges*, although an early-flowering variety, may still be classed as an October sort, as the plants usually last well into the month. Its useful white flowers are always appreciated. *Lady Fitzwygram* is very similar in habit of growth and colour of the flowers, but the petals are more of an incurving character. It blooms freely in early October both in pots and outdoors, and possesses great merit as a variety for cutting where white flowers are in demand.

Madame Marie Masse is an extremely free blooming lilac-mauve coloured variety, which should be grown outdoors as well as in pots to extend its season. During the early part of the month a well established plant in the open ground will produce a grand lot of bloom for cutting. *Flora*, a small yellow Pompon, is an excellent variety. The flowers are small, but they are bright in colour and freely produced. Small plants lift well, and are readily established in pots. *Pride of Mytchett*, a beautiful Japanese variety, has pink flowers with a gold centre. Its habit is dwarf, bushy, and a very free bloomer. The terminal buds, thinned out to one

or two on each shoot, make an attractive display. *Ambrose Thomas* is valuable on account of its reddish bronze flowers, which are produced of fair size and freely outdoors. *Ryecroft Glory* is one of the best October flowering yellow varieties. It is of medium size, bushy in habit, and exceptionally free in flowering. When the buds are reduced to one on each shoot

the colour is rather of a bronzy yellow, a clearer yellow being observable when the blooms are more numerous, consequently smaller. *Soleil d'Octobre*, a canary yellow variety, is exceptionally rich in tint, and a pleasing contrast to the previously mentioned variety. Reducing the number of buds improves the size and colour of the blooms. It

should be grown in pots, as it does not bloom, as a rule, early in the month.

Few varieties of similar colour can beat *Wm. Holmes* in rich bright crimson. It is an old variety, and was considered indispensable at one time in a collection, but is not so much sought after now. It is a stiff and bushy grower. *Margot*, though not of recent introduction, claims attention as a specially useful variety to grow in pots for cutting from. The colour is salmon pink, and is very pleasing when the blooms are fresh. *Lady Selborne* is a useful

white, but, like the last, an ancient variety, that was immensely popular as a market variety.

A very fascinating variety named *Mrs. Wingfield*, of a soft peach pink, was introduced a few years ago. The plants are dwarf and bushy, and the flowers, though not large, produce a good effect. *Nelly Brown* is an orange red sport from *Ryecroft Glory*, and is of similar habit. *Comtesse F. de Cariel*, a good terra-cotta coloured

variety, still holds a high place among the early Japanese varieties. For a deep crimson variety *Crimson Pride* should be grown. Varieties of exceptionally rich and uncommon colour are always worth including. *Alex. Dufour* is one of these, being of a bright rosy purple colour. It is of dwarf and bushy habit, and blooms towards the end of the month. The terra-cotta *Source d'Or*, as well as the yellow variety of the same name, merit attention as excellent varieties for decoration and cutting towards the end of October.

Clinton Chalfont is a small-foliaged variety that produces bright yellow flowers freely. *Eynsford White*, a pearly white, and

October Queen, white shaded buff and crimson, should be included. *October Yellow* is useful, while two such bright crimsons as *Roi des Précoces* and *Ruby King* will add rich dark colours to a collection. Many other varieties might be included, but the foregoing are among the best and most generally useful during the month of October.—B. H.

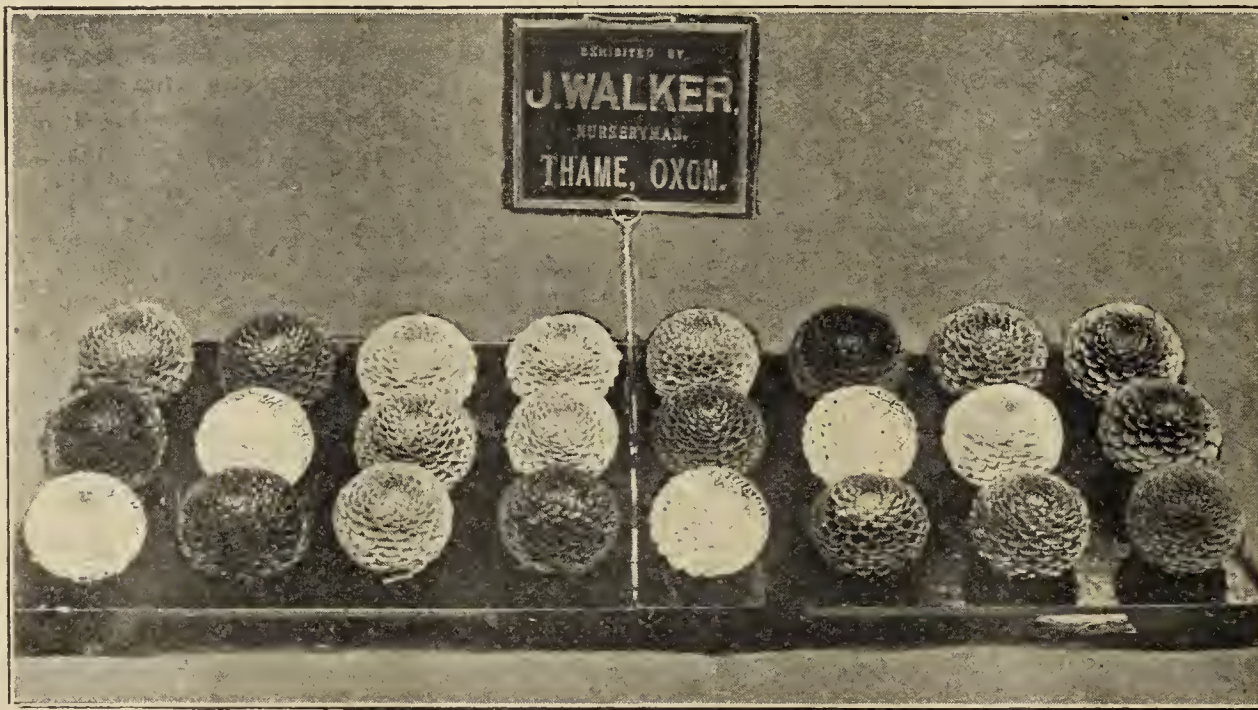


FIG. 81.—MR. WALKER'S SHOW AND FANCY DAHLIAS AT THE AQUARIUM.

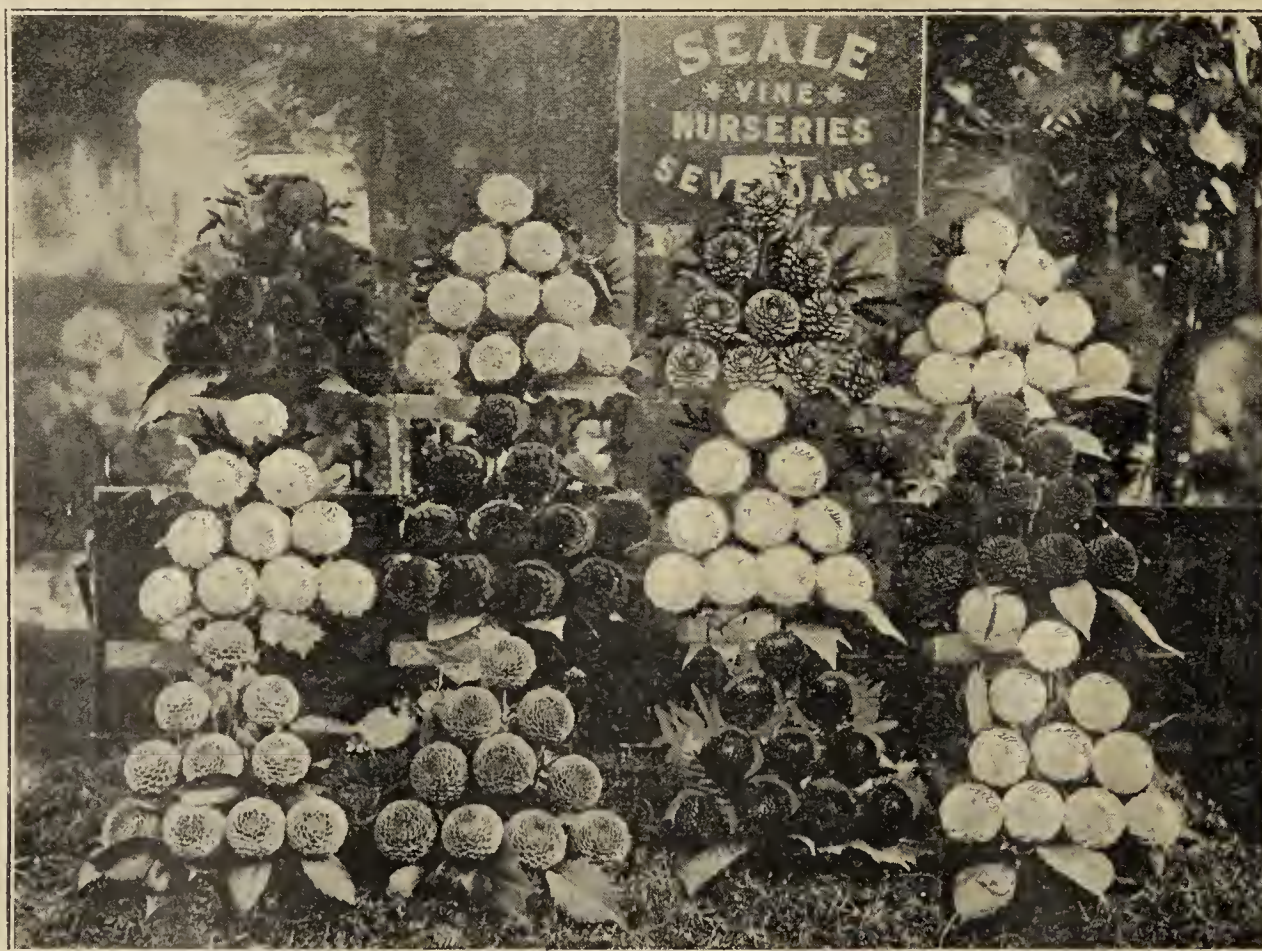


FIG. 82.—MR. SEALE'S POMPON DAHLIAS AT THE AQUARIUM.

Dahlias at the Royal Aquarium.

IN our last issue we gave a complete report of the exhibition of Dahlias arranged by the Royal Aquarium Company, and we now present to our readers a series of three photographic illustrations taken on the occasion noted. It was impossible for our photographer to secure one comprehensive picture that would have done justice to the beauty of the display, as it was divided into two distinct sections. We therefore chose three exhibits that may be taken as typical of the remarkable excellence of the quality of the flowers which ranged throughout the several sections as well as the amateurs' and professional divisions.

Taken as a whole, however, the Cactus varieties were the finest, and the twelve shown by Messrs. Burrell & Co., Cambridge, were practically perfect (fig. 83). The Pompons (fig. 82) contributed by Mr. M. V. Seale were of the most refined type in each case, and were entirely

of the plant's merits. Remarking upon the peculiar structural economy of the foliage of the *Alströmeria*, "T. M.," in the "Treasury of Botany," says, "The numerous species of the genus are very similar in character; the leaves are, by the twisting of the petiole, resuspinate; the upper surface, which is usually smooth, even, and destitute both of ribs and stomata, having the peculiar structure and performing the functions of the under surface. This curious economy was first pointed out by the late Robert Brown, and it is well defined in the foliage of *A. aurea*, known also as *aurantiaca*."

The writer's first acquaintance with the *Alströmeria* was somewhere in the late forties, in the shape of a mass of *aurea*, established on a dry border between two massive stone buttresses of a large conservatory, and where for many years an abundant supply of flowers was afforded for cutting purposes with little or no special culture beyond an occasional winter mulching of decomposed manure. Formerly prizes were offered for *Alströmerias* in pots at exhibitions; but eventually they fell into disrepute, excepting that they may be seen in collections of cut hardy border flowers. Seedlings have been raised occasionally, but with comparatively little advance. The fact that some of



FIG 83.—MR. BURRELL'S CACTUS DAHLIAS AT THE AQUARIUM.

innocent of that coarseness which the florists have lately deplored. The poor soil in which the plants were grown is said by Mr. Seale to retain, and indeed accentuate, refinement. Mr. J. Walker of Thame has been well nigh invincible with Show and Fancy Dahlias this season, and the illustration (fig. 81) will convey to readers who had not the pleasure of attending the show a clear conception of the excellence of his twenty-four at the Aquarium. The names of the varieties in each of the stands represented will be found on page 278.

Alströmerias.

THESE handsome natives of South America (named in honour of Baron Alströmer, a Swedish botanist and friend of Linnæus), with leafy stems and terminal umbels of richly coloured flowers, were more highly prized half a century ago than at the present day. Since the renaissance, however, of the hardy herbaceous and perennial border flowers, there naturally has taken place a renewed recognition

the species dislike disturbance at the root is probably the reason why they have not been recognised so much as their merits deserve, otherwise when once established a patch will increase and flourish for years without interference. Several of the species are increased by division of the roots, and others from cuttings, which root freely.

Almost any good soil suits *Alströmerias*, but for the tenderer ones a mixture of turfy peat, loam, and sand is requisite. As has been hinted, some of the species were cultivated years ago in pots for greenhouse or hothouse work, according to their respective nature, and when the flower shoots began to rise liquid manure was found of material benefit to them, especially when the plants became root-bound. To secure a rich display of the flowers when grown under glass 10 or 12-inch pots are needed, in which, after the plants have died down, they can be wintered, with protection from sharp frosts during the dormant stage. Grown in large pots fine specimens, suitable for exhibition purposes, may be obtained.

If the hardy species, grown in a border outside, are required for pot culture, either September or October, or February and March, are suitable times for potting the plants, but the operation must be done carefully, as the roots are extremely brittle. Water should be sparingly applied at first, but when root action is in full

force the plants must never be allowed to want for water, and to keep down red spider or other insects occasional syringings will be necessary.*

After flowering, and when the plants commence to fade, the supply of water should gradually be reduced, but they must not be kept too dry when in their winter quarters, or the fasciculated masses of fleshy roots will shrivel. When repotting is required, a portion of the old soil should be removed, without disturbing the roots more than may be necessary, and returned into the same or larger pots according to requirement.

Among the more desirable of the hardier kinds the following, in addition to aurea already mentioned, are valuable:—*A. chilensis*, which flowers in July; *versicolor*, early autumn; *psittacina*, early autumn. Of tenderer species, *pelegrina*, flowering in July; *caryophylloea*, very fragrant; and *pelegrina alba*, which latter is said to be the most chaste of all the *Alströmérias*. Some of the species, such as *densiflora*, *acutifolia*, *acutifolia aurea*, *edulis*, *oculata*, *pauciflora* and *hirtella* are climbers. For ordinary purposes, comparatively cheap mixed varieties may be obtained from trade growers.—W. G.

Amongst the Vegetables.

THE present is not a particularly busy month in the vegetable garden, no work being of an exceptionally pressing character; yet several matters should have attention. It is not too late to sow seed of several crops for next year's supply; while seedlings from seed sown last month will require thinning-out. Onions must be harvested too, and Celery earthed-up.

A supply of wholesome well-flavoured Cabbages in spring is worth considerable trouble in procuring, and home-grown plants are generally preferred. This crop is, in fact, the most important of all. The young plants which have resulted from previous sowings may now be removed from the seed bed. At this season of the year a sharp frost may come at any moment, and tender young plants crowded together are liable to suffer very severely by it. Plant them out, therefore, at once, so that they may be as strong as possible when frost arrives. They should be planted 18 inches apart in their final quarters, in rows the same distance asunder. Plants with stems of a hard woody texture will stand any amount of frost—in fact, the more exposed they are the better they seem to thrive. If left too long in the seed bed they become spindly and succulent, and are destroyed by thousands. Seed may still be sown, but it is very late in the season, and the work should not be delayed a day longer than is necessary. Sow it thinly in drills, and transplant the seedlings when a few leaves have been formed. No special soil or position need be prepared for them.

Now is the time for insuring the blanching of the heart and stems of Celery by earthing-up the plants—i.e., drawing soil around them and banking it up. The roots of the plants should receive a good soaking with water previously to earthing them up; but it must not fall upon the stems, otherwise they will decay when the soil has been drawn around them. All suckers should be removed, and also any small yellow outer leaves, but no healthy green leaves ought to be taken off. The stems should be first drawn round the heart of the plant and tied with matting, or the plant must be held together with one hand while the earth is placed around it with the other. No particles of soil must be allowed to fall into the centres of the plants during the operation. Water should be given to the Celery copiously, and occasional doses of liquid manure will be attended with beneficial results. Liquid prepared from farmyard manure will be best; failing this, soot dusted on the soil and watered-in will prove useful, and it will be distasteful to worms and slugs.

Onions from spring-sown seed must be removed from the ground and spread on the surface to dry if the weather is not wet; in the latter case they must be spread in a shed or empty room. When dry, the loose rough outer skin and long coarse roots may be removed, and the bulbs stored in any dry out-of-the-way place to be kept for use. Or they may be tied up in bunches and strung on sticks, which may be hung up until the bulbs are needed. Decaying bulbs must be carefully excluded, otherwise they will contaminate the rest.

A supply of Radishes may be procured throughout the winter by sowing seed of the two winter varieties Black Spanish and China Rose. The latter is an excellently flavoured oval-shaped kind, and is largely grown for market during winter. Seeds of both the sorts named may be sown thinly at once on a warm sheltered border, or, better still, in a frame. Thin the seedlings out as they attain size, finally leaving them about 3 inches apart. About the middle of October another sowing may be made to procure a succession.

Spinach is a favourite vegetable with many persons, and it is certainly a very wholesome one. If seed has not yet been sown there

is just time to repair the neglect, but no time must be lost. Seed of either the round or the prickly-seeded varieties may be sown, for they are equally hardy. Sow it thinly in drills 12 inches apart, and when the seedlings appear thin some out, leaving the remainder about 6 inches asunder in the rows. If allowed plenty of room they will become sturdy and hardy plants.—W.

Fruit Growing for Profit.

From the Gardener's Standpoint.

THE fruit crops of the year have formed a theme in which every class of the community has taken part. The masses have no cause for complaint in the abundance and cheapness of the varied fruits which have been furnished in their season, but there is scarcely a crop on which market growers as a whole can compliment themselves upon as furnishing a useful profit on their investments and the labour employed.

Although fruit tree planting will, and must of necessity, proceed, there arises more than ever the doubtful thought as to what is best to plant, and the extent to which it can be usefully carried out. Markets everywhere are at the present time overdone with Plums, and their value is so low that the growers scarcely repay themselves for gathering and cartage. No doubt among the higher grades of purchasers the large imports and cheap sale of foreign fruit have done much to damage the home growers' and retailers' prospects, and colonial shipments add to the weight of competition, all of which trend in the direction of low prices and small profits. If it were possible for English growers to ship their now abundant crops to other European countries, and so relieve the home markets of the prevailing glut, much good would result; export dues, however, decree otherwise, and so long as prohibitive taxes are imposed by other countries on English goods, and their products are allowed to flood our markets duty free, so long will this undesirable state of competition have to be reckoned with in years of plenty.

The private gardener's mind is not so much disturbed by the state of the market when the supply of one family only is expected of him. There are those, however, and they are not a few, who must perforce dispose of their surplus in order to reduce the expenses of the garden and its satisfactory up-keep. Low prices, though they do not affect these gardeners directly, carry a considerable amount of indirect influence. Many owners of gardens, not being men of commerce, do not readily understand the comparative value in seasons of dearth and plenty. While a good crop is the annual desideratum of the private gardener—and the fuller it is the better—this latter phase is in reality a fatal one for the market grower. This year, for instance, it is said that in the large fruit orchards of Kent it does not pay even to gather up the fruit from the ground for sale, and it is thus allowed to remain to decay. This is the sequel which the speculating planter has to face, and though such seasons as the present do not occur in unbroken succession, the averages of better years are brought down in their value.

For some years English markets have dealt in French fruits with so open a hand, and English custom is evidently so good, that planting has been extensively carried on, and larger exports made. Now there are the colonial shipments brought into the conflict, and the wonder is that at all can find a remunerative sale in so small a country. What can the prospects of the future be for the British planter when he has to face such a growing duty free import from other countries? Exorbitant rates charged by railway companies, too, have imposed an unfair condition in the past, but this grievance has to some extent been mended, but will need still further relaxation. It is a curious coincidence that foreign goods should be allowed so much favour, especially when brought into competition with that of British growth, and also be shown so much favour by consumers. It has been often repeated that the packing and grading of English fruit have brought their own condemnation, but conviction is not so easily carried. No doubt in times past such may have been the case, but surely the British mind is not so dull that in fruit growing no heed is paid to the demands of the sellers and buyers of their goods.

The year 1900 has been a memorable one in many respects, and there will be many amended resolutions, as well as fresh ones, brought to bear on the coming winter's work. There is nothing that will educate so effectively the progress of the future as failure. The most valuable object lessons often come in this way, and no doubt the present year has furnished more than its average portion of losses over and above that of success. Planting has been advocated as a means of shutting out the foreigner, but apparently without effect. The low price at which much foreign fruit is retailed must provide but small returns for the actual grower after so many dues have been paid out of it.—R. A. W.

Royal Horticultural Society.

Drill Hall, September 25th.

THE Drill Hall on Tuesday was as closely packed as we have seen it for a very considerable period. Dahlias were shown in immense numbers, but in some of the exhibits there was far too much duplication of varieties. Michaelmas Daisies were also fine. Both fruit and Orchids were few in numbers. The vegetables from Mr. Kelf, Regent's Park, were most creditable.

Fruit Committee.

Present: P. Crowley, Esq. (in the chair); with the Rev. W. Wilks, and Messrs. W. Poupart, P. C. M. Veitch, H. Esling, A. F. Barron, E. Shaw Blaker, A. H. Pearson, G. Kelf, A. Dean, S. Mortimer, W. Bates, E. Beckett, G. Wythes, F. Q. Lane, J. H. Veitch, J. Smith, and T. Coomber.

Mr. Owen Thomas, gardener to her Majesty the Queen, Windsor, contributed a magnificent collection of Plums and Damsons. The fruits were mainly of excellent quality. Among the most conspicuous were Monarch, Belle de Septembre, Pond's Seedling, Coe's Golden Drop, Guthrie's Late Gage, Transparent Gage, Nouvelle de Dorelle, Jefferson, Golden Esperen, Archduke, Diamond, Reine Claude de Bavay, Ickworth Impératrice, Lawson's Golden Gage, Denniston's Superh, Autumn Compôte, Kirke's, Grand Duke, Transparent Gage, Prince Engelbert, Braby's Green Gage, Gisborne's, Late Rivers, B'ue Impératrice, and White Magnum Bonum Plums, with Damsons King, Hereford, White, Common and Cluster, and The Bullace (silver Knightian medal).

Mr. E. Beckett showed a handsome collection of Capsicums. There were several varieties, and all the fruits were beautifully developed (silver Knightian medal). Mr. E. Beckett also sent Parsnips Tender and True and The Student, the former being conspicuously superior. Mr. Key Allen, Southampton, showed some grand dishes of Plum Pond's Seedling. Messrs. Dobbie & Co., Rothesay, were represented by Turnip Dobbie's Model, a most excellent variety of the Snowball type. Messrs. R. Veitch & Son, Exeter, sent Peach Late Devonian, and Mr. W. H. Dyer, Frimley, Tomato Dyer's Seedling. Odd dishes of fruit were exhibited by several exhibitors. Messrs. J. Cheal and Sons, Crawley, showed a small but interesting collection of Crahs.

Mr. G. Kelf, gardener to Miss Adamson, South Villa, Regent's Park, contributed a collection of vegetables comprising all the kinds now in season. Particularly conspicuous were Cauliflowers, Lettuces, Vegetable Marrows, Tomatoes, Beet, Onions, Turnips, Celery, and Kale (silver Knightian medal).

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Drury, H. B. May, R. Dean, G. Paul, H. Turner, H. J. Jones, E. H. Jenkins, J. Walker, J. T. Bennett-Poë, J. D. Pawle, E. T. Cook, J. F. McLeod, J. Hudson, J. Fraser, and H. Selfe Leonard.

A beautiful display of autumnal Roses came from Messrs. Paul and Son, Cheshunt, which were well staged. The chief forms were Papa Gontier, Kaiserin Augusta Victoria, Madame Abel Chatenay, Gruss au Teplitz, François Dubreuil, White Maman Cochet, Catherine Mermet, Princess Beatrice, and Sunset; also a collection of hardy border flowers, which comprised Colchicums in variety, a good collection of Phloxes, in which Iris, Coquelicot, Floçon de Neige, Fiancée, and Eclairer were conspicuous; also Cyclamen hederæfolium, and a variety of Asters were certainly worthy of note.

Messrs. W. Wells, Ltd., Redhill, exhibited a box of Chrysanthemums. Madame Marie Masse, with the variety Crimson Marie Masse, and a buff orange sport labelled Orange Masse, surely a curious name. The same firm also had an exhibit in another part of the hall, which included some really good sports. Goucher's Crimson, a good seedling from Harvest Home, Mrs. E. Stacey, a buff sport from Mr. Selhy, Madame R. de Molmain, a beautiful terra cotta shade, Jules Mary, Victor Mew, in grand form, and Molière. Mr. B. R. Cant, Colchester, had an exceedingly pretty display of Tea and other Roses staged in splendid condition. The best were Queen Mab, Laurette Messimy, Madame Falcot, Papa Gontier, Perle d'Or, Killarney, L'Ideale, W. A. Richardson, and Souvenir de Catherine Guillot. A collection of Phloxes and Pentstemons were staged by Messrs. I. House & Son, Westbury-on-Trym. The Phloxes were B. Comte, Coquelicot, Iris, Eclairer, Wm. Robinson, Etna, Dervish, and Jocelyn; the Pentstemons were also fresh and bright, and made a good foreground to the Phloxes.

Messrs. W. W. Johnston & Son, Ltd., Boston, demonstrated the second crop of Sweet Peas by staging a good collection. The flowers were clean and fresh, and the varieties very varied. The best were Salopian, Aurora, Royal Rose, Othello, Her Majesty, Miss Hunt, and the Hon. F. Bouverie. A choice display of hardy flowers were also staged by Messrs. Barr & Sons, Cvent Garden. The arrangement was decidedly good. The most striking features were the collection of Phloxes, Asters, Helianthus, Tritomas, Vallotas, Gladioli, and a small collection of Pompon Dahlias, which were all much too large. Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, sent a most interesting, though small, collection of bulbous plants in flower. They were arranged in a box, and the blooms of Sternbergia macrantha

were superb, as also were *S. lutea* and others. *Colchicum speciosum* album was of the chastest beauty.

Mr. J. H. Witty, Nunhead Cemetery, arranged a group of early flowering Chrysanthemums, which were well grown and full of bloom, while the form of grouping in three mounds was most pleasing. Mr. John Russell, Richmond Nursery, Richmond, sent a capital collection of Bambusas. The plants were all in good leafage. Some of the best plants were *Phyllostachys aurea*, *P. mitis*, *Bambusa metake*, *B. palmata* and *Arundinaria Simoni*. From Mr. Norman Davis, Framfield, Sussex, came a grand exhibit of Michaelmas Daisies; not only were the flowers well grown, but they were also artistically arranged, and formed a beautiful exhibit. A few of the best forms were *A. amellus* var. *Distinction*, *A. novi-belgii ticturus*, *A. n.-b. Purity*, *novæ-anglæ* Mrs. F. W. Rayner, *amellus bessarabicus*, and *A. var. Onward*.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, staged a good collection of Asters and Begonias. The latter included some well flowered plants of *B. Richardsiana*, *B. Moonlight*, a good white form, said to have been in commerce about twenty years, the flowers are about the same size as those of *Gloire de Lorraine*, but creamy white in colour. The spaces between the plants were filled in with Ferns and a variety of other foliage plants.

Messrs. Jas. Veitch & Sons, Ltd., Chelsea, staged a truly autumnal exhibit of Tritomas, Rudbeckias, and Helianthus. The Tritomas were excellent, and contrasted well with the bright yellow Sunflowers and Rudbeckias. The same firm also staged a grand display of Nepenthes, arranged with a bed of *Adiantums* beneath. Most of the Nepenthes were carrying a large quantity of their handsome pitchers. The chief forms were *N. Dicksoniana* carrying sixteen pitchers, *N. Amesiana*, *N. Morgania*, *N. Domini*, *N. Wrigleyana*, *N. Balfouriana*, *N. Chelsoni excellens*, and *N. Hookeriana*; some of the plants were truly remarkable for the number they were carrying.

Messrs. W. Paul & Son, Waltham Cross, made a grand display of Roses, chiefly arranged in baskets with their own foliage. Needless to say they were chiefly of the Tea section. Those most notable were *Souvenir de J. B. Guillot*, *Queen Mab*, *Queen Olga of Greece*, *Madame Hoste*, *Boadicea*, *Gruss au Teplitz*, *Madame Rene Gerard*, *White Maman Cochet*, *Corallina*, in grand form; *Enchantress*, and *Madame Abel Chatenay*. A pleasing display of the new Begonia of the *Gloire de Lorraine* type, named *Mrs. Leopold de Rothschild*, was made by Mr. H. B. May, Dyson's Lane Nursery, Edmonton, arranged in a ground-work of *Adiantum*, all well-grown plants. The Begonias were beautifully flowered, and the plants appear to be much stronger than the type. Mr. Amos Perry, Winchmore Hill, made a fine exhibit of hardy flowers, which were well staged. A few of the most notable were *Solidago Shorti*, *Tritomas* in variety, *Rudbeckia purpurea*, *Senecio pulcher*, and a variety of Asters. Messrs. J. Burrell & Co., Cambridge, staged a beautiful box of *Zauschneria mexicana*, which were a mass of bright crimson-red flowers.

Dahlias.

By far the largest exhibit in the Hall was the collection of Cactus Dahlias from Messrs. Hobbies, Ltd., Dereham, who occupied nearly the entire length of the Hall with a high bank of sprays running about seven tiers high, relieved somewhat with a few Cocos Palms. But the arrangement was much too stiff and formal, and the varieties were duplicated to an exceptional extent, at the same time a gorgeous display was made. The most noteworthy varieties were *Ajax*, *Magnificent*, *Lucius*, *Dr. Nansen*, *Mrs. J. J. Crowe*, *Red Rover*, *Eclair*, *Exquisite*, *Starfish*, *Zephyr*, *Ethel*, *Radiance*, *Innovation*, and *Ranji*. Mr. J. T. West, Tower Hill, Brentwood, displayed a good collection of Cactus, Pompon, Show, and Fancy varieties. The quality was certainly good in all sections. The most conspicuous Cactus varieties were *Gleadless*, *Mrs. J. J. Crowe*, in grand form; *Uncle Tom*, *Mrs. Carter Page*, *Loyalty*, *Mary Service*, and *Mayor Tuppenny*. The Pompoms were good typical sprays, and included *Little Bugler*, *Darkest of All*, *grand*; *Violet*, *Salamander*, *Primrose*, *Nerissa*, and *Adelaide*. The Show and Fancy varieties were rather small, but of capital quality, almost every bloom being of show form. Mr. M. V. Seale, Sevenoaks, had a table of Dahlias. The back was formed with single and Pompon varieties, while the front was composed of Show, Fancy, and Cactus varieties. In the single section, *Beauty's Eye*, *Alice Nicholson*, *Edie Oblein*, *Alice Seale*, and *The Sirdar* were most conspicuous. The Pompoms were of excellent type, some of the best being *Distinction*, *Donovan*, *The Duke*, *Emily Hopper*, *Douglas*, and *Whisper*; while the Cactus included good specimens of *Elsie*, *Lucius*, *Debonnair*, *Innovation*, *Britannia*, *Mrs. C. Page*, and *Countess of Lonsdale*.

Messrs. J. Burrell & Co., Cambridge, exhibited a couple of boxes of Cactus varieties, all his own raising—a somewhat unique performance for a Dahlia raiser. The varieties were *Igneæ*, *Ajax*, *Artus*, *Regulus*, *Vida*, *Rosine*, *Debonnair*, *Imperator*, *Galliard*, *Nevada*, *Vesta*, *J. W. Wilkinson*, *Casilda*, *Elsie*, *Grandee*, *Lyric*, and *Dinorah*. Messrs. J. Cheal & Sons, Crawley, staged a box of Pompon Cactus Dahlias, most of them being of good colour, *Venus* being a useful white, *Mars* a good red; but surely one *Mars* is sufficient; we have already a Pompon *Mars*; no doubt the section will prove a useful one for decorative purposes.

Mr. J. Stredwick, Silverhill, St. Leonards, also presented a display of Cactus, Pompon, and Show varieties. The sprays in the Cactus section were undoubtedly the chief feature, and the best were

Mayor Tuppenny, Viscountess Sherbrooke, Mrs. Jowett, Lord Roberts, Uncle Tom, J. Weir Fyfe, and Chas. Woodbridge. The Pompons were a trifle too large, according to general taste at the present day. Messrs. Keynes, Williams & Co., Salisbury, had six boxes of Cactus Dahlias of excellent quality. The chief were Mrs. Carter Page, Loyalty, Britannia, Wm. Treseder, Innovation, Mrs. J. J. Crowe, Magnificent, Ajax, Elsie, Chas. Woodbridge, Countess of Lonsdale, Starfish, and Radiance. Mr. Chas. Turner, Slough, staged some good sprays of Pompon Dahlias of excellent type, which included Zerlina, Sybil, Vara, Galatea, Fosco, and Imogene; also a Show variety Gracchus, which is briefly described below.

Medals.—Floral Committee.

Gold medals to Messrs. J. Veitch & Sons; silver-gilt Flora medals to Messrs. J. Green and W. Paul & Son; silver Flora medals to Messrs. J. T. West, Paul & Son, and A. Perry; silver-gilt Banksian medals to Messrs. N. Davis and J. H. Witty; silver Banksian medals to Messrs. B. R. Cant, H. B. May, J. Stredwick, J. Russell, and M. V. Seale; and bronze Banksian medals to Messrs. Barr & Sons, W. Wells, and Keynes, Williams & Co.

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, de B. Crawshay, A. H. Snee, J. Colman, H. Little, J. T. Gabriel, H. J. Chapman, W. H. Young, H. A. Tracy, E. Hill, T. W. Bond, J. Jaques, C. Winn, T. Rochford, H. M. Pollett, and H. Ballantine.

The only group of Orchids was that arranged by Messrs. J. Veitch and Sons, Royal Exotic Nurseries, Chelsea. It comprised numerous finely grown plants carrying well formed, brightly coloured flowers. Amongst the most conspicuous were *Laelio-Cattleyas* Nysa, Wellsiana, Isis, Epicasta, *Callistoglossa*, Bryan, Ingram, and Parysatis; *Laelias* splendens and Novelty; *Cattleyas* porphyrophia, Mantini, Mrs. J. W. Whiteley, and Chloe, with several *Cypripediums* (silver Flora medal).

Orchids were also contributed by Messrs. H. Low & Co., Upper Clapton; H. Little, Twickenham; J. Murray, Wylam-on-Tyne; J. Hamilton, Duns, N.B.; W. Walters, Chiswick; R. Morris, Gypsy Hill, and W. H. Young, gardener to Sir F. Wigan, Bart., East Sheen.

Certificates and Awards of Merit.

Dahlia Prince of Wales (S. Mortimer).—A magnificent yellow Cactus variety that must become popular (award of merit).

Dahlia Shamrock (J. Cheal & Sons).—A charming single. The centre is velvety crimson and the margin lake (award of merit).

Dahlia Venus (J. Cheal & Sons).—This belongs to the new Pompon Cactus section; the colour is almost pure white (award of merit).

Dahlia Mrs. Jowett (J. Stredwick).—This handsome Cactus variety has already been described in our columns (award of merit).

Dahlia General French (J. Stredwick).—A beautiful warm terracotta variety of the Cactus section (award of merit).

Dahlia Lord Roberts (J. Stredwick).—A Cactus variety with cream coloured flowers of good type (award of merit).

Dahlia Kathleen (F. W. Sharp).—A Cactus variety with red flowers of good form; there is a faint orange tinge (award of merit).

Dahlia Gracchus (C. Turner).—A buff orange Show variety of good substance (award of merit).

Dahlia Doris (M. V. Seale).—A pale lavender Pompon variety with a cream centre (award of merit).

Dahlia Thalia (M. V. Seale).—A Pompon variety with deep rose coloured flowers (award of merit).

Helianthus rigidus Mr. H. G. Moon (Barr & Sons).—A fine variety of the well-known *Helianthus rigidus*; the flowers are large, and the colour bright (award of merit).

Rose Mrs. B. R. Cant (B. R. Cant).—This is an extremely floriferous variety, with silvery rose fragrant flowers (award of merit).

Sternbergia macrantha (J. Hudson).—A brilliant golden yellow flower, of the first size and substance (first-class certificate).

Colchicum speciosum album (J. Hudson).—A magnificent variety with pure white flowers (first-class certificate).

Grape Prince of Wales (J. Veitch & Sons).—A sport from Mrs. Pince. The berry is very fine in size, of good colour, and has some of the flavour of Mrs. Pince. It is said to be a most excellent keeper (award of merit).

Nepenthes Chelsoni Excellens (J. Veitch & Sons).—A magnificent variety of the well-known *Chelsoni*. The ground colour is light green almost obscured by crimson-brown. It is of large size (first-class certificate.)

National Dahlia Society.

At a committee meeting held on September 25th, at the Drill Hall, Westminster, S.W., first-class certificates were awarded to Show Dahlias Duchess from Mr. G. St. P. Harris, and Gracchus from Mr. C. Turner; Cactus Dahlias Prince of Yellows from Mr. S. Mortimer; Major Hobbs and Floradora from Mr. Humphries; Jealousy, Bessie Mitchell, and Lord Brassey from Mr. Stredwick; Cheal's White from Messrs. Cheal and Son; Bernice from Burrell & Co., and Kathleen from Mr. F. W. Sharp; Pompon Cactus Dahlia Venus from Messrs. Cheal & Son; Pompon Dahlias Violet from Mr. West, Thalia from Mr. Seale.—J. F. HUDSON, Hon. Secretary.



Fruit Forcing.

Cucumbers.—*Autumn Fruiterers.*—Maintain healthy and vigorous growth by a genial condition of the atmosphere. Avoid a close, moist air by judicious ventilation, and do not admit cold drying currents. Keep the growths fairly thin, going over the plants twice a week for stopping and removing superfluous growths, being careful not to overcrop the plants. Be sparing in the use of water, especially over the foliage, but damp the floors and walls in the morning and afternoon, gradually, however, reducing the moisture as the days shorten and the sun heat declines. Add a little fresh soil about once a fortnight to the hillocks or ridges previously warmed, applying tepid liquid manure once or twice a week as may be necessary. Vapourise or fumigate if aphides or thrips appear, and be careful not to give too much. In case of attack by red spider, white fly, or mildew, dress the hot-water pipes lightly with a cream formed of skim milk and flowers of sulphur. For oanker promptly rub quicklime into the affected parts until quite dry, and repeat as necessary.

The plants for winter fruiting should be placed out as soon as they are ready, a good bottom heat being essential to insure success, whether it be obtained by the aid of fermenting material or hot-water pipes, but a somewhat higher temperature is required to commence with if fermenting materials are employed, as the heat will decline, and there should be hot-water pipes in the bed to keep up the bottom heat when that of the fermenting material declines. The soil may consist of turfy loam, light rather than heavy, with a third of fibrous peat, a sixth of old mortar rubbish, and a tenth of charcoal, the whole well incorporated. For imparting vigour later rely on liquid manure and surface dressings in preference to employing manure in the compost.

Peaches and Nectarines.—*Trees Ripening the Fruit in July.*—The midseason varieties of Peaches and Nectarines started in February will be approaching the resting period, and the foliage becoming sere. This must not be forcibly removed, but the trees or trellis may be shaken and the leaves cleared away as a means of riddance of fungi and insects. Supply water to the border as required to keep the soil moistened through to the drainage. If the wood is thoroughly ripened and the roof-lights are movable, the trees will derive great benefit from exposure until the time arrives for starting and the need for watering will be done away with, whilst there is lessened danger of the buds dropping, but if the wood is not ripe it is unwise to expose the trees to heavy rains, snows, and frosts. When the wood is strong and the points of the shoots are soft and retain the leaves in a green condition, form a trench about one-third the height of the trees from the stem and detach all roots down to the drainage, leaving the trench open for ten days or a fortnight, when it may be filled firmly. Young trees only require this, but older trees that have the wood very strong may be root-pruned, and roots wholly or partially lifted before the leaves have fallen. In the case of weakly trees remove the old soil from amongst as well as over the roots, supplying fresh rather strong loam, with an addition of calcareous matter where the loam is not of that nature, making it firm, and following with a good soaking of liquid manure.

Trees Ripening the Fruit in August and September.—The foliage must be kept free from red spider and other insect pests in order to obtain proper maturation of the wood and buds, an occasional forcible syringing being all that is needed in most cases. If there is scale promptly apply an insecticide, also against brown aphides, which sometimes attack the younger parts of the wood in autumn, and can be destroyed by diluted tobacco juice. There must not be any lack of moisture at the roots, therefore apply water to the inside borders as necessary to prevent their becoming too dry. Afford abundant ventilation, and if the wood is not ripening well keep the house rather warm by day, and throw the ventilators open at night, but a close, moist atmosphere must be avoided, as that would be more injurious than otherwise.

Late Trees.—When the fruit is gathered the trees will need to have the shoots thinned where too crowded, and those which have borne fruit and are not required for extension can be cut out to a successional shoot at the base; this, with free ventilation, will assist in ripening the growths, which is of primary importance as regards next year's bearing. In cold localities and the wood strong it may be necessary to employ gentle fire heat in dull weather. Avoid a dry condition of the border. The trees must not lack water at the roots, and yet drier condition of the soil is advisable whilst the fruit is ripening, but anything like distress to the foliage interferes with the formation and maturation of the buds, and may seriously prejudice their retention by the trees, which simply cast them because imperfect, or impaired in vitality from various causes.

Strawberries in Pots.—The earliest stock of this summer's runners intended for early forcing should now be selected, taking those with the most promising crowns, well developed and plumped, giving them ample

space, so that they may become well matured in their growths; and before heavy rains place them in frames plunged in coal ashes to the rims of the pots, and well up to the glass, which should be perfectly clean, so that they will be assured plenty of light; and air must be admitted abundantly by tilting the lights in rainy weather, and withdrawn when the weather is mild and fair. A loose surface for Strawberries in pots prevents the soil from leaving the sides, and admits of the water passing equally through the ball and moistening it thoroughly. A little horse droppings or cow manure dried, rubbed through a half-inch sieve, and applied to the surface will keep all right there.

Remove all runners as they appear, also weeds, and do not allow the plants to suffer through insufficient supplies of water. The plants should have full exposure to light and air by allowing abundance of space, so as to secure sturdy well-developed crowns. Late and weakly plants may be assisted with weak liquid manure, taking care not to make the soil sodden, or it will do more harm than good. Stimulants ought not to be given to strong leafy plants, or this may increase the grossness or cause them to push the flower buds, which if only partial splits the crowns up into a number of parts derogatory to a good show of trusses when placed in heat.

Hardy Fruit Garden.

Strawberries.—Established beds ought to be cleared of weeds and runners without further delay. If the beds have been fruitful and consist of good varieties adapted to the soil the best of the rooted runners may be preserved. Detach the runner wires from the parent plant, then lift the plants with good balls of soil attached to the roots, and plant at once if more stock is wanted on ground liberally treated in respect to deep digging and manuring. The soil, however, should be firm. Even if only small but promising young plants can be obtained, these, if lifted and planted 4 inches apart on a plot of good ground, will grow freely during the winter, and may be planted permanently in spring.

After clearing the old beds mulch between the rows with farmyard manure. This will add to the food in the soil, and encourage the production of fibrous roots near the surface. It is better to discard beds more than three or four years old, as they cease to be productive. A new bed ought to be made annually. Recently planted beds now becoming established require hoeing to destroy weeds and encourage growth, also cut away runners which invariably start away from the early established plants.

Raspberries.—The canes which have borne the summer crop are now exhausted and should be cut away. Also remove the current year's canes with the exception of five or six of the strongest to each stool, these to be retained for future bearing. Raspberries are gross feeders and need liberally mulching with rich manure, the present being a suitable time to give an application after the ground has been slightly loosened and weeds removed. During the winter liquid manure may be given. If new plantations are to be formed the ground must be thoroughly cultivated and liberally manured. Snickers springing up at a distance from the stools make the best planting canes.

Root Pruning.—Root-pruning over-luxuriant fruit trees is an operation which may be carried out now. Severe root-pruning, however, is not desirable, hence it is better to deal with half the roots at one time so as not to give too severe a check. Take out a trench about 3 feet from the bole half way round the tree, or form smaller trenches on opposite sides. Prune the roots to the sides of the trench. Work to the depth of 2 feet. It may be necessary to undermine the ball of roots and sever those strong roots which are descending vertically, these, in the majority of cases, producing the strong and unfruitful growth. When the pruning has been effected fill in the trench again with the best of the soil taken out, adding some good loam, charcoal, burnt refuse, or wood ashes, mixed with decayed manure. Make the whole firm. The following year, if necessary, treat the other side in the same manner. Young trees which need checking at the roots may be lifted and replanted, pruning smoothly any damaged roots.

Improving Weak Trees.—Trees and bushes healthy, but failing to fruit from lack of support, should be top-dressed with some fertilising and stimulating mixture. Remove the surface soil down to the roots, and spread over them a layer of compost, consisting of loam and manure mixed with wood ashes and bonemeal. Copious applications of strong liquid manure or sewage water acts beneficially in assisting impoverished trees. This may be applied at intervals throughout the winter. One pound to the square yard of some of the general artificial fertilisers will act quickly and prove of service.

Gathering Fruit.—This work should be continued as the varieties become ready. Handle the fruit carefully to avoid bruising. Apples which may be gathered now include Potts' Seedling, Yellow Ingestrie, Worcester Pearmain, and Wellington. Of Pears, Louise Bonne de Jersey, Brockworth Park, Autumn Nelis, Flemish Beauty, Fertility, and Crassane, with some others, are in a suitable condition for early gathering.

Preparing Fruit Borders.—The width of borders for fruit trees against walls should be the same as the height, 10 or 12 feet being suitable. For bush and pyramid trees a good width is 9 feet. The whole of the soil should be trenched or broken up to the depth of 2 feet. This will give a rooting medium of uniform depth, provide sufficient

moisture, and give the trees a good start. Manure is not essential except in very poor ground, or when intending to plant small bush fruit—Raspberries or Strawberries, and Blackberries.

Apricots, Peaches, and Nectarines.—The fruits on late Peach trees just on the point of finishing should be gathered before falling. When all the fruit has been gathered cleanse the trees from red spider if this pest has attacked the foliage by syringing well with clear water. Superfluous shoots may be cut out, these consisting of the old bearing growths as well as the weakest of the current year's shoots, for which no room can be found without crowding, and this is not desirable. The growths retained nail-in to the wall, in order that they may be thoroughly ripened, indicated by the wood attaining firmness and the leaves a stout leathery condition. Should the border be dry, moisten the soil to the full extent to which the roots ramify, and unless the trees be very luxuriant improve the rooting medium by copious applications of liquid manure during winter.

THE BEE-KEEPER.

Reducing Entrances.

If not already done the entrance to the hives should now be reduced. In the majority of instances the hives will have been open their full width since early in the spring. Wasps are numerous this autumn, and are only too ready to help themselves to the stores in the hives if they can gain admittance. Our practice is to reduce them to about half an inch at this season, or earlier if necessary, as the bees will then be able to keep out all intruders.

During the past two or three years we have experimented with narrow and wide entrances throughout the winter months. The hives operated on were facing south, east, and west. Those facing due south, and having their entrance open 9 inches throughout the winter until breeding commenced the following spring, were found to be in better condition than those that were reduced to 1 inch. Those having an eastern aspect and treated in precisely the same manner as the others were about equal as regards strength when examined the following April, but the stocks having wide entrances had consumed more stores. The colonies that had their opening to the west and which had been reduced to less than an inch, were found on examination to be in a much better condition than those having wide entrances. From the above it will be seen that hives placed in a warm southern position are better with plenty of front ventilation throughout the winter, but those in cold or exposed situations should have their entrances reduced throughout the winter and early spring. Afterwards, when honey is coming in freely, they should be opened their full width.

Storing Combs.

In apiaries, whether large or small, where the bulk of the honey is obtained by extracting, there will be numerous old combs on hand at this season. If properly treated they will be in better condition for placing in the super and for extracting the honey from than new combs next season. Only clean combs should be kept. Those which have become laden with pollen should be melted down. The combs must be stored in a dry place, where they can be kept clean and free from the wax moth. A cupboard or a large box in a dry place answers admirably. The plan we have adopted for several years is to wrap half a dozen combs in newspapers. This will keep them free from dust, and the packages may be placed one on the top of the other in a box until it is quite full. If a few balls of naphthaline are placed in the box between the combs it will have the effect of keeping them free from the moth. If a large quantity has to be stored the following simple plan will answer the purpose. Place some calico round the inside of a box and well sprinkle it with carbolic acid. The sides and bottom should be treated in this manner. The combs are then packed as tightly in the box as it is possible to get them. When quite full the tops of the frames are treated in the same manner, and the lid of the box placed in position.—AN ENGLISH BEE-KEEPER.

Gardeners' Charitable and Provident Institutions.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. Brian Wynne, 8, Danes Inn, Strand, London, W.C.



TO CORRESPONDENTS

• All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Pink Carnation (H. P. W.).—We know of no Carnation having a strong scent that is of the precise shade you require. Miss Joliffe Improved is practically identical in colour, but it lacks perfume. You might address your query to Mr. Robert Sydenham, Tenby Street, Birmingham, whose knowledge of Carnations is peculiarly wide.

Cutting Back Rhododendrons (E. A. D.).—Rhododendrons may be cut in to any extent and form desired, and will start again freely, but will be a few years, if pruned much, before they become good specimens. The best time to cut them back is in April, though this involves the loss of next season's crop of flowers. It is well if in cutting back to leave some young growths, as they start more freely from young growth than wood of considerable age. If weak as well as old, it is likely they may not start again freely if cut back to the old strong wood. We have cut back some from appearance over fifty years old, which have started freely and formed good specimens.

Culture of Bignonia radicans (J. R.).—This is the hardiest of the Bignonias, and in favourable positions succeeds outdoors. The growth must be well ripened in order that flowering may be satisfactory. Thin out the weakest wood, leaving that retained so that sun and air may thoroughly mature it. The unripened ends may be pruned away. Next season side growths will issue from the stems, and these will bear the flowers. Bignonias generally thrive in a compost of fibry loam, peat, sand, and charcoal. The position in which they planted should be well drained, abundance of water being required in the summer, but little in winter, not, however, allowing them to suffer from dryness.

Peach Dr. Hogg (Inquirer).—This fine Peach thrives perfectly against an open wall if it is thoroughly screened from north-east winds in the spring, to the baneful effects of which its foliage is so sensitive as to be often destroyed. The tree is a vigorous grower, and the fruit is large, handsome, highly coloured, and of delicious flavour. It is in the front rank of second early varieties, but owing to its tendency to suffer seriously from leaf blister in unkindly springs, the more robust Rivers' Early York should always be planted with it. This rule holds good also with both early and late kinds. With Hale's Early plant Early Beatrice, which is much better out of doors than in, and to follow Dr. Hogg there is none better than Grosse Mignonne, and for late sorts Barrington and Walburton Admirable.

Grubs in Soil (Grub).—The "white-grub" is the larva of the root fly, *Anthomyia radicum*, which is on the wing throughout the summer, and successive generations of maggots are kept up till November, and probably under glass throughout the year. Eggs are deposited on or near the root-stems of various plants, and the maggots hatching therefrom eat passages in the stems and roots, and cause considerable injury to, if not destroying, the affected plants. When full-grown the maggots leave the plants and turn, in the earth, to pupae. In the other package we found nothing but a maggot with a black head, which is the larva of the Radish fly, *Anthomyia floralis*. As you dress potting soil with a mixture of Jeyes' fluid, nitrate of soda, and boiling water the flies cannot be introduced as pupae in the soil, and the watering with a weak solution of the same certainly ought to have a good effect. We have invariably found gas liquor, one part to five parts water, fatal to all grubs and maggots, and your finding otherwise is to us inexplicable, unless the gas liquor has been very weak. To combat the flies we advise the procuring of some strips of tin, about the size of ordinary envelopes, and a corresponding number of small stakes about as thick as the middle finger and 18 inches in length, pointing the thickest end, and making a slit down the stake at the other end. Introduce the strip of tin into the slit firmly, and dress both sides of it with a smear formed of two-thirds resin, melted, and one third sweet oil. Thrust the pointed end of the stick into the soil—it may be of a pot—so the strips of smeared tin will be firm and vertical, placing about a yard apart. The flies will probably alight on the traps, and the mischief will be arrested, as they must have aerial flights before eggs can possibly be deposited. Strips of cardboard smeared with myocum, or fly-gum, may be used instead of strips of tin. In case of disinfected soil it would be advisable to use a mixture of superphosphate of lime nine parts, nitrate of potash five parts, nitrate of soda seven parts, and sulphate of lime seven parts, mixed, spreading the compost out about a foot deep, and sprinkling on each square yard 4 ozs. of the mixture, then turn over several times before use. This will benefit the plants potted with it, if not prevent the flies depositing their eggs. The maggot may be destroyed by watering with clear lime water.

Roses Mildewed (F. G. G.).—Mildew is usually the most prevalent when the roots of Roses are in poor and too dry soil, and the position is more or less low and sheltered. Syringing the plants with water containing 2 ozs. of softsoap in each gallon, and while still wet dusting the affected parts with sulphur, is a good remedy; but at this season the ends of the worst shoots may be cut off and burned. Copious applications of liquid manure to the roots would almost certainly be beneficial. Not knowing the nature of the soil we are unable to say whether lime would improve it or not.

Treatment of Vines (Novice).—It would no doubt afford some relief to remove three of the seven Vines, not only as regards the roots but the growths, as these with more light and air would be better able to elaborate the sap, and store matter for the support of the crop. It is believed by some that starvation will cause shanking, also keeping too dry at the roots. Vines, however, ought not to suffer from either lack of nourishment or insufficient supplies of water. It is easy to supply both, especially as the roots are entirely under control, and the drainage being good and the border composed of the proper material there is no reason why Grapes should not be produced with few or no shanked berries under proper management.

Scale on Pears (J. L.).—The pest infesting your Pear tree is that of *Aspidiotus ostreaformis*, or Pear tree Oyster scale, which you cannot now remove, except with the point of a knife or similar instrument, and it is well worth while removing it from the fruits, as it very often seriously disfigures them at or near the shank. The best remedy is to unnailed the tree, if against a wall, and wash every branch and shoot with a half-worn paint-brush, giving every part a good scrubbing, but being careful of the bloom-buds or spurs, so as not to injure them, and yet free them of the enemy. The solution with which the trees are to be washed consists of 8 ozs of softsoap dissolved in a gallon of water. It should be done immediately the leaves fall, and should be repeated—i.e., the brushing and scrubbing, two or three times, but not the washing with the soap solution, for this must be reduced in strength, 6 ozs. being sufficient for a gallon of water as the spring approaches. As a preventive, the tree may be dressed in February with a composition formed of the soap solution previously named, and brought to the consistency of paint by adding equal parts of fresh soot, lime, and sulphur, applying it with a paint brush to every shoot or branch, working it into any hole, angle, or crevice.

Lord Suffield Apple Tree Leaves with Browned Spots and Patches (Somerset).—The leaves are affected with a fungus, *Septoria oxyacanthæ*, which also attacks the living leaves of Hawthorn, Pear, and other rosaceous trees, first indicating attack by small discoloured spots, generally of a purplish hue. In a short time these spots turn brown, while in some cases many of the affected areas separate from the surrounding portion of the leaf and fall to the ground, leaving holes, which have given the disease the name of "shot hole" fungus. Under a lens the brown spots show a few black dots, where the reproductive spores are developing. The fungus is believed to live over the winter on and in the leaves. The fallen leaves, therefore, should be collected and burned. The disease may be prevented by spraying with dilute Bordeaux mixture, say 1 oz. of copper sulphate and 1 oz. of freshly burned lime to 2 gallons of water. It should be applied by means of a spray diffuser, such as used by hairdressers, first before the blossoms open; then as soon as the fruit is well formed spray again, and repeat the application twice later at intervals of two or three weeks. It should not be applied too late, on account of the mixture being liable to remain on the ripened fruit. For this reason it has been advised to use a solution of sulphide of potassium, 1 oz. to 6 gallons of water at the first two sprayings, and increase the strength at the next two one-fourth, or 1 oz. to 4½ gallons of water. The treatment is equally effective against Apple scab fungus, *Cladosporium dendriticum*.

Propagating Shrubby Calceolarias (J. K.).—Cuttings of shrubby Calceolarias will root if put in any time during October and till late in November, but it is not advisable to defer propagation very late, or severe frost may spoil the cuttings. A cold frame or pit is the best place for rooting and wintering the cuttings, and if a heated pit is used the heat in the hot-water pipes should be turned on in frosty weather only, the aim being to keep the plants alive, but not in active growth. A fairly dry and well-drained position should be selected for the frames or hand-lights. No heating material whatever should be used, but the frames may be stood on a shallow firmly built bed of spent manure and leaves, more of this material being placed in the bottom of the frames; on this to be put about 6 inches of fairly good loamy soil, finishing off firmly and evenly with half that depth of light sandy soil, a surfacing of sand completing the bed, and this should bring back the cuttings when inserted to within 6 inches or less of the glass. Hard "wiry" cuttings are not suitable, and the preference should be given to those that are flowerless, short-jointed, and fairly but not over-succulent, and they should be trimmed and put in at once. All should be about 3 inches in length and cut to a joint, the lower pair of leaves only being trimmed off. They may be dibbled in about 3 inches apart each way, every cutting touching the bottom of the hole made, and firmly fixed. A watering through a fine rose should be given, and the frame, pit, or hand-lights, as the case may be, kept close and shaded from bright sunshine till the cuttings are rooted, this taking from six weeks to two months to accomplish, after which time they should receive abundance of air on all favourable occasions.

Melons Splitting (R. H. C.).—Melons split from the rind not expanding in proportion to the growth. Splitting usually occurs after a continuance of dry weather, when the rind becomes nearly as hard as that of a Pumpkin, and it splits from the pressure of the matter impelled into the fruit. As a preventive, keep the atmosphere and soil moist after the fruit begins to swell. A deficiency of moisture in the atmosphere and at the root gives a check to growth, and the consequence is that the fruit does not swell, but becomes rindbound. During very bright weather slight shading is also beneficial, especially when the fruit is not protected from sun by the leaves. It is only when Melons are setting and ripening that they need a dry atmosphere, at other times they require as much moisture as Cucumbers in order to swell to a good size, and that they will do in the first thirty days after setting or never. If they are kept moist when they ought to be dry they crack.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. Cross).—1, Hibiscus syriacus; 2, Crataegus pyracantha; 3, Rudbeckia triloba; 4, Viburnum Lantana. (G. H. F.).—1, Retinospora ericoides; 2, R. plumosa aurea; 3, Thuopsis dolabrata; 4, Cupressus Lawsoniana, seedling form; 5, C. L. erecta viridis. (L. C. G.).—1, Rivina laevis; 2, Datura Stramonium; 3, the Tree Tomato, Cythomandra betacea. (W. W. W.).—1, Nerine Fothergilli; 2, Asplenium adiantum nigrum; 3, Lophospermum scandens. (G. P.).—Polygonum bistorta.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (J. F. B.).—The Pears resemble small fruits of the Hesse, as if produced by an old or overlaid tree. This variety originated in your neighbourhood, and you might compare the fruits with others. Those sent are not quite typical specimens. The Apple is the London Pippin, also known as the Five-crowned Pippin. (Ignoramus).—Pears: 1, possibly Dr. Hogg Bergamot, but past; 2, Williams' Bon Chrétien; Apples: 3, Tower of Glamis; 4, Besspool; 5, possibly Cellini; 6, unknown. (P.).—1, Bismarck; 2, Sandringham; Pears: 1, Durondeau; 2, Nouvelle Fulvie; 3, Gansel's Bergamot. (Peach).—Plum Reine Claude de Bavay; Peach: if the flowers are small and the leaves have round glands, Bellegarde. (F. R.).—1, Worcester Pearmain; 2, Cellini; 3, possibly Cox's Orange Pippin from an old tree; 4, Beurré Clairgeau; 5, Vicar of Winkfield; 6, Williams' Bon Chrétien, out of character. (W. B.).—1, Fondante d'Automne; 2, Williams' Bon Chrétien; 3, Duchesse d'Angoulême; 4, Souvenir du Congrès; 5, Yorkshire Beauty; 6, small Winter Hawthornden.

Trade Catalogues Received.

F. Bernaix fils, Villeurbanne, près Lyons, France.—Roses.
Daniels Bros., Ltd., Norwich.—Bulbs, Roses, and Fruit Trees.
Harrison & Sons, Leicester.—Bulbs.
H. J. Jones, Lewisham.—Bulbs and Tubers.
W. Paul & Son, Waltham Cross.—Roses.
J. R. Pearson & Sons, Lowdham.—Fruit Trees and Roses.
J. P. Williams & Brothers, Henaragoda, Ceylon.—Tropical Seeds.

Covent Garden Market.—Sept. 26th.

Trade very quiet.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bushel ...	2 0	to 3 0	Nectarines, doz. ...	1 6	to 9 0
„ cooking, bushel ...	1 6	5 0	Oranges, case ...	10 0	15 0
Cobnuts, doz. lb., best ...	4 0	5 0	Peaches, doz. small ...	1 0	2 0
Damsons, $\frac{1}{2}$ bushel ...	0 9	2 0	„ doz., good size ...	6 0	9 0
Figs, green, doz. ...	0 6	0 10	Pears, crate ...	3 0	7 0
Grapes, black ...	0 6	2 6	Pines, St. Michael's, each	3 0	6 0
„ white ...	1 6	3 0	Plums, $\frac{1}{2}$ bushel ...	1 0	2 6
Lemons, case ...	10 0	20 0	„ Californian, case ...	4 0	6 0
Melons, house, each ...	0 6	1 6	„ common, sieve ...	0 6	1 0
„ water, case ...	3 6	5 0			

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	3 0	to 4 0	Leeks, bunch ...	0 1 $\frac{1}{2}$	to 0 0
Beans, French, sieve ...	1 0	1 6	Mint, green, doz. bunches	2 0	0 0
„ scarlet, bushel ...	0 3	1 0	Mushrooms, lb. ...	1 3	1 6
Beet, red, doz. ...	0 6	0 0	Mustard and Cress, punnet	0 2	0 0
Brussels Sprouts, sieve ...	1 6	2 0	Onions, Dutch, bag ...	4 0	4 6
Cabbages, tally ...	3 0	5 0	Parsley, doz. bunches ...	2 0	0 0
Carrots, doz. bunches ...	2 0	3 0	Peas, English, bushel ...	5 0	6 0
Cauliflowers, doz. ...	1 0	2 0	Potatoes, cwt. ...	3 0	5 0
Celery, bundle ...	1 0	0 0	Shallots, lb. ...	0 2	0 3
Cucumbers, doz. ...	1 6	3 0	Spinach, bushel ...	2 0	0 0
Endive, score ...	1 6	6 0	Tomatoes, English, lb. ...	0 2	0 4
Herbs, bunch ...	0 2	0 0	Turnips, doz. ...	2 0	3 0
Lettuce, doz. ...	0 9	0 0	Vegetable Marrows, doz. ...	0 6	1 0
„ Cos, score ...	0 6	2 0			

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	1 6	to 2 0	Maidenhair Fern, dozen	2 0	to 4 0
Asters ...	3 0	4 0	„ bunches ...	2 0	to 4 0
Carnations, 12 blooms ...	1 0	2 0	Marguerites, doz. bnchs.	2 0	4 0
Cattleyas, doz. ...	6 0	12 0	„ Yellow doz. bnchs.	2 0	4 0
Chrysanthemums, doz.			Odontoglossums ...	3 0	4 0
„ blooms ...	1 0	3 0	Pelargoniums, doz. bnchs.	4 0	6 0
Eucharis, doz. ...	1 6	2 6	Roses (indoor), doz. ...	2 0	4 0
Gardenias, doz. ...	1 0	2 0	„ Red, doz. ...	1 0	2 0
Geranium, scarlet, doz. bnchs.	4 0	5 0	„ Safrano, doz. ...	1 6	2 0
Gladiolus, doz. spikes ...	1 0	2 0	„ Tea, white, doz. ...	1 0	3 0
Lilium lancifolium album	1 6	2 6	„ Yellow, doz. (Perles)	1 0	2 6
„ „ rubrum	1 6	2 6	„ English—La France,		
„ various ...	2 0	3 0	doz. ...	1 0	2 0
Lily of the Valley, 12 bun.	15 0	18 0	Smilax, bunch ...	2 0	4 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	to 24 0	Foliage plants, var., each	1 0	to 5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	„ pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each	2 6	5 0
Azaleas, various, each ...	2 6	5 0	„ pink, doz. ...	12 0	15 0
Bononias, doz. ...	20 0	24 0	„ paniculata, each	1 0	3 6
Cannas, doz. ...	18 0	0 0	Lilium Harrisii, doz. ...	8 0	18 0
Orotons, doz. ...	18 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	8 0	12 0
Erica various, doz. ...	8 0	18 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	„ specimens ...	21 0	63 0
Ferns, var., doz. ...	4 0	18 0	Roses, doz. ...	6 0	18 0
„ small, 100 ...	4 0	8 0	Stocks, doz. ...	8 0	12 0
Ficus elastica, each ...	1 6	7 6			



Old Books.

OLD books, old wine, old friends! how good they are! But what have old books to do with The Home Farm? Perhaps more than The Home Farm guesses. In a neighbour's house the other day we came across a volume of 1840, "The Farmer's Magazine." Of course we immediately asked to borrow it, and found in it a pleasant and profitable evening's reading. It was a most conscientious book; the pages were open to the careful discussion of endless subjects connected with the improvement of working methods on the farm. Looking at

these discussions now, we smile; these matters have all been settled so long ago, we wonder there should ever have been any doubt. So will our children read our old books and papers when we are at rest.

What a time of progress these sixty years have been! Outsiders may think the progress slow, but the experiments we make usually take a year to develop, and all our best calculations may be upset by untoward weather. We have not a laboratory in a quiet room, our laboratory is in the open field or the cattle pen. Nature's processes are all slow, and she cannot bear to be hurried. One of the first things that took our eye was a table giving the quantities of malt used by brewers in or about London from October 10th, 1839, to October 10th, 1840. We wonder how many of the firms are still extant, and how their present quantities would compare with those of sixty years ago! Barclay & Co. head the list with 115,561 qrs., to be followed by Hanbury & Co. with 98,124 qrs., Whitbread & Co. next with 53,622, and the list of 140 firms ends with one Smith with a capacity for only 20 qrs. He would hardly get into a provincial list nowadays. Mention is made of the veterinary schools of France, and the immense value to the country generally of the horse-breeding establishments. Do our Queen's premiums do the same amount of good? Let the reader answer the question. We want something easier.

Many of the correspondents are much agitated by a terrible disease that is working sad ravages among their cattle, sheep, and swine; it is evidently new to them—we have had an example lately in Flintshire—the dreaded "foot and mouth." There is a little extract we should like to make from a speech of P. Pusey, president of the Royal Society; it embodies a great truth, and is as applicable to-day as it was sixty years ago. "The farmers are slow to adopt Science, principally because scientific men are too hasty in enforcing those principles which they consider to be right. The best book a farmer could have would be one that would record all his prejudices."

Why should the cost of threshing mown Wheat be 6d. per quarter more than the threshing of reaped Wheat? Reaped here means cut with a sickle, the scythe is evidently a newish implement. The prices for threshing per quarter, we may add, are 4s. to 5s. In 1839 the Wheat average was 66s. 5d.; in 1840, 59s. 1d. Butter adulteration is no new thing, but we do not expect to find in it oatmeal, yellow turnip, baker's soda, or weaver's dressing. Ours sometimes is nasty enough, but we hardly reach such depths. A great objection is raised to the colouring of cheese by annatto. People will have coloured cheese, and butter too. We can only hope the colouring matter is innoxious. £10,000 per annum seem a large sum to pay for this drug in 1808.

The watering of stock in summer on high grounds such as the wolds is often a difficulty. Making ponds that will hold water is a great art. In the neighbourhood of Driffield, E. Yorks, could be found at one time—even to-day—men whose main work was pond making, and very successful they were at the job. It appears it is no new art, for as far back as 1840 a yeoman of Kent calls attention to the excellent ponds made at and about Kilham, a large village lying about six miles N. of Driffield. We should fancy he had in view the scarcity of water on his own high lands.

From ponds to teetotalism is not a long step. A writer goes to prove that a teetotaller is a direct benefit to the farmer. Of course there is first of all his better condition for work; and it appears that, leaving off beer, he spends the money so saved in a pig. This pig will consume far more value of Barley than its master did in the form of malt. Less money spent at the public house means more for meat and clothing, and, roughly speaking, the meat and clothing in 1840 would come principally from the farm.

We have often advocated the rolling of land to stop the ravage of the wireworm. The rolling has a solidifying effect, and makes the task of the wireworm hard, if not impossible. What should we think of *treading* the land by men or women to accomplish the same purpose? This was done on the Wheat plant of a Wiltshire farm in 1839; the cost was 2s. 4d. per acre. In 1840 the "Royal" was held at Liverpool, and we find a firm of Suffolk implement makers "shipping" their goods for exhibition to that port. April of this year Wheat was 66s. to 68s. per quarter; labourers, if very good, got 12s. per week. This book is full of reports of crops of Swedish Turnips, and there is great divergence as to the quantity that might be grown per acre. One gentleman involves himself in endless correspondence after he had asserted that he grew 50 tons per acre.

On the 12th May we find the first mention (in this book) of Mr. John Bennett, who is proposing with Lord Spencer to go in for some trial Swede experiment. Another member of the "Royal" gives the interesting information that two cargoes of the new fertiliser called guano may be expected in Liverpool about July.

Thrashing machines being in their infancy, it is reported great damage is done to malting Barley; it gets so broken nibbed or

skinned, especially the best samples. Some maltsters would fain go back to the flail. Influenza has appeared among horses, and many are the remedies suggested. Foreign Wheat was imported into this country at 30s. per quarter, including the duty. We fancy not much, or the prices of English would not have kept up so well. This was before the days of fleet steamers. There is one thing about the whole volume very wonderful—so little real grumbling. Of course there is a trifle, but quite immaterial. We should not grumble much if Wheat ever reached 60s.; but, alas! that day is past and done.

We close with a quotation on the joys of agricultural life from a very old writer—a writer before England was. He lays his scene in Italy, but the spirit is the same. Few farmers ever turn to Virgil's page for inspiration and yet he knew a good deal about their calling. The lines are from the Georgics of Virgil, book ii., 4, and we are indebted for the translation to Lord Burghclere.

Oh! happy, happy, toiler in the fields,
Thine own rare happiness didst thou but know.
Spoilt child of fortune!

For thy simple wants
Earth the ever faithful out of a willing lap
Scatters her ready store.

And yet unbroken peace, a life that knows no guile,
With treasures manifold are thine;
For thee, the spacious freedom of the open fields,
Caverns and living lakes and dewy dales,
And lowing cattle and sweet slumber time
Under the forest trees and woodland glade,
And haunt of birds and beast and rustic youth,
Patient to labour, bred to scanty fare.

Meanwhile our simple farmer tills the land
With the curved plough, his task year after year
The mainstay of his country and his home,
His children's children and his faithful steers
And droves of kine.

Nor ever does the year
Slacken its yield, but teems with copious fruit,
With young of cattle, and with sheaves of corn,
And heaps the harvest in the furrowing fields
Till the barns burst.
Then comes the winter time.
His Olive mills are busy with the grist
Of Sicily berries, and his swine troop home
Sleek and well liking from their fill of mast.

His cows around
With pendulous udders promise stores of milk,
And fat kids tussle on the merry turf
With combatant horns.

And he, the lord of all, keeps holiday.

Work on the Home Farm.

The autumn cleaning has been suspended for a time; a couple of heavy thunderstorms have soddened the surface, and dull misty weather to follow is not favourable to drying, so we may as well commence ploughing lea for Wheat; there is almost too good a pasture to turn down, but it can be spared, and the land will be all the better for it in the future, if not immediately. If ploughed a good 5½ to 6 inches, and not too wide, a skim coulter also being used, there should be no difficulty in putting the 6-inch high pasture well out of sight.

The land is in beautifully moist condition, and the ploughs work smoothly and well. The Potatoes are not yet ready to lift; though there is not a green leaf to be seen, the stems are still green and sappy, so we must continue to follow the plough on the lea.

There truly is an abundance of green food. We can only wonder at the uniformly good appearance of the young Clovers, and we have this week seen the best piece of new seeds we can remember in a thirty-two years' experience, and we doubt whether we shall ever see a better. They have grown amongst Wheat, the latter following Potatoes. This is a capital course for the Clover plant, which loves a firm seed bed, and always does well amongst autumn-sown Wheat.

As September nears its end the eye of the farmer must be turned attentively to his cattle. In these days of foreign competition he cannot afford to let his animals lose flesh before being brought up in autumn. Grass, though plentiful, is now rather watery, and must be supplemented by cake to keep the beasts moving in the right direction. The best time or age at which to sell a beast is the earliest after fifteen months of age, at which it can be put on the market in prime condition. Those which have never really lost their calf fat always pass the block test satisfactorily, as butchers know well. Besides this there is the size of the joints to consider, and those from a twenty-month-old bullock will be far more saleable than from a three-year-old ox.

A word of warning as to the health of stock. That the dreaded "foot and mouth" is among us again there can be no doubt. The Board of Agriculture are quite alive to the extreme gravity of the situation, but their efforts are of little avail without the co-operation of stock owners. It is the custom in many parts to buy in lean stock for winter feeding. By all means put such stock into the strictest quarantine for some time. A stitch in time, &c.

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Journal of Horticulture.

THURSDAY, OCTOBER 4, 1900.

Planting Strawberries in October.

STRAWBERRIES must be well established before they can fruit well, and though August and early September are the best times to plant beds permanently when a crop is expected the first season, yet during the month of October plantations may be formed. If the plants are small, the whole of the next growing season must be allowed them to strengthen their rooting power and build up bold crowns, when the crop the following year will be a good one should the blossoms receive no injury from frosts in spring. Planting carried out now often results in securing well-developed specimens by the following spring, much of course depending upon the size and condition of the runners obtained. Weak and attenuated plantlets are not to be relied upon when planted at any season. The best are those obtained from rows where runners have been produced sparingly, with the result that there has been no crowding from the first. The leaves have had every facility to attain a stout and sturdy character under the influence of abundant air and light, hence the crowns are bold according to the size of the plants, and fibrous roots are numerous. Such plants lift readily when the ground is moist, and can be easily placed in a permanent position almost without giving them any check. This, of course, is not possible with all. Runners are often secured from a distance, well furnished perhaps with abundance of roots, but little or no soil adhering to them. These planted now have time to become established, but do not make much headway until spring. The best method to adopt when planting late is to obtain the stock in 3-inch pots, and plant them without disturbing the ball of roots other than loosening those closely matted together at the base and round the sides. Firmly place the soil round them, seeing especially that the ball is moist.

At this season it is not advisable to have the

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soil too rich and loose, therefore if the ground is recently dug and manured compress it firmly together by well rolling or treading. Ground which is in moderately good heart, but not recently disturbed, is the best. The surface of any soil may before planting receive a liberal dressing of wood ashes or burnt refuse, hoeing it in. For heavy soil it will mechanically improve the texture, rendering it more open and porous, and for light soils it will add some needful mineral matter to it. Should the weather be dry when the plants are inserted water them in, otherwise little should be required. In the case of small plants, or if not convenient to plant permanently now, place 6 inches apart in beds until spring.—E. D. SMITH.

Daffodils in Pots.

The Golden Hoop Petticoat Narcissus.

CONTINUING my notes (page 288) on these very valuable bulbous plants, and referring to the earliest, I must not omit *corbularia conspicua*, the Golden Hoop Petticoat Narcissus, which is exceedingly free-flowering and effective with its flowers issuing from its tuft of grassy leaves. It is a pretty flower, and being cheap should be grown in quantity. It is very pleasing in the conservatory as a margin, alternating with Maidenhair Ferns, but it cannot endure much heat, at least such is my experience of it. Then, for varieties to bring up the succession we must look to the more diminutive *N. nanus*, so charming for fringing the stage in the greenhouse, while *N. minor* is a larger form much in the same way.

Following these we find in the forms of *N. spurius* a series of bold and characteristic flowers, many of which are exceedingly handsome and far too valuable to be tampered with in heat. The type, however, is sufficiently cheap and plentiful to allow of its free but judicious use in pots, and included with this may be the major form, also *N. spurius* Henry Irving and Golden Spur. These two latter are grand additions, the last especially so; the flowers of this are large, rich yellow, with a bold broad lip, expanding trumpet, much larger than the better known *N. maximus*, and altogether more vigorous.

I cannot but call attention to one of the best, yet one of the commonest of all the race, I mean the old double Daffodil of gardens, *N. telamonius* fl.-pl. The great demand for this variety alone is in itself sufficient proof of the growing taste for flowers, and how eagerly even the most commonplace plants are sought after when it is found that they may be produced much earlier than is their wont by growing them in slight warmth. The reason probably why this particular variety has so quickly gained the favour of the flower-loving public is on account of its noble bloom and rich colour, a colour, too, which seems to find many admirers at the present time; and since it is readily produced in quantity early in the year, when flowers are so much needed, there is every probability of it proving serviceable, and well managed it may be had for weeks in succession.

Narcissus bicolor.

Leaving the gold and yellow forms we will just take a glance at some of the most prominent of the *N. bicolor* group. Collectively this is a grand section and one always admired, and that deservedly. The whole of this group is distinguished by having a white and sometimes a sulphur or primrose coloured perianth around a golden cup or crown, and it is not saying too much when I state that all are good. The best to be found in the type are *N. bicolor*, and such varieties as *N. b. Horsefieldi*, *N. b. Empress*. All of these are most telling flowers. Last in flower of this section is *N. b. grandis* (*maximus*), an immense flower with pure white well imbricated perianth and bold yellow trumpet; but the most useful, perhaps, is *Horsefieldi*, which is not only one of the best of its kind, but also an acquisition in the whole army of spring bulbs. This may readily be flowered in March if potted early and placed in cold frames till the end of January, and thus treated it will not be likely to suffer, as it will then come on sufficiently fast in an ordinary greenhouse. In the *N. lorifolius* group we have good well known varieties in *Emperor* and *rugilobus*, well suited to pot culture.

Large numbers of varieties are also found in the *N. incomparabilis* section, but taken as a whole, while it includes many valuable forms and pleasing tints, it is perhaps the least suited to pot culture under glass. This is mainly due to the general want of substance in the perianth segments, as these when brought on in heat quickly shrivel if used as cut flowers; therefore I do not recommend them. They may, however, be grown in cold frames or sheltered positions out of doors, and especially so the mixed seedlings of the commoner forms, and thus grown they are very useful, and as a whole freely flowered.

Amongst the true *Narcissi* of which portions may be regarded as

typical, we have some of the most useful of all, admired alike for their fragrance as well as for their general decorative value. In the first place they may be divided into early and late groups, the best of the former being *N. p. ornatus*, which flower naturally in March and April, while in the latter we find *N. poeticus* and *N. poeticus recurvus*, both single forms, and the double white Gardenia-flowered *Narcissus N. poeticus* fl.-pl., which flower in May. To select a variety from these no one having previous experience would do other than name *ornatus*. The pure white perianth is of good substance and well formed, in some flowers they are somewhat imbricated, the cup being narrowly margined with scarlet. With good and careful treatment this may be had in flower from January onwards, and it well repays good culture.

Of the Double White I cannot say much as to its forcing properties, for I have not given it sufficient trial in quantity. One thing is certain; well established bulbs must be had or the buds will go blind in the scape prior to expansion. It is, however, excellent out of doors when established, and to those already named, which include some of each group suited to the above named purpose, may be added a selection of the forms of *N. Tazetta*, all of which are useful, and have in the great majority of instances powerfully fragrant flowers.—N.

Colour Massing of Rhododendrons.

WHEN seen in a large mass or clump, no plants afford a more pleasing picture with their quiet colouration than the old *Rhododendron ponticum* and its varieties, with their shades of mauve or light purple. For town gardens there is no evergreen shrub more suitable than a large percentage of the *Rhododendrons*, and of which there are numerous fine old examples, especially of the pontic varieties, in the suburbs of Birmingham (especially does that apply to Edgbaston and Harborne, lying on the south-western and western sides of the city), some of them being upwards of half a century old, and still in vigorous health and having annual profusion of bloom.

It is owing to a daily beholding and admiring some of these fine old veterans during their flowering period that I am actuated in venturing to draw attention to their attributes, especially, too, as I do not recollect ever having seen them in more glorious array and vigour; and irrespective of the more brilliant and richer colouration of their compeers the splendid hybrids, the pontic varieties are still worthy of extended recognition for pleasure-ground ornamental purposes. Of the general adaptation for such as covert and other woodland purposes this class of *Rhododendrons* it is needless to remark.

I would, however, just allude to another example of *Rhododendron* massing that recently came under my observation, and which in time may become a still more prominent and unique feature of the beautiful and extensive grounds in which it exists—viz., in the shape of a large bed containing upwards of four score flourishing plants of *Purity*, a white variety. The bed was planted about four years ago with the plants of uniform height and size, and whilst in flower a most striking contrast is presented in connection with the great wealth of the surrounding *Rhododendrons* and other flowering and evergreen shrubs and trees, also rockery and water-scapes. Taken, however, by itself, the monotony of the sheet of white flowers seemed to require relief, either by the introduction of a few standards of the same variety to break the surface of the mass, or what would also be a pleasing contrast, the introduction of a few bushy standards of a bright crimson, scarlet, or rose coloured variety. The intention, however, presumably is to preserve it in its present entirety, in contradistinction to an adjoining large mass containing leading varieties in colours of scarlet, crimson, and purple, planted in groups.—W. GARDINER.

Our Illustrations.

IT will be observed that the illustrations in the *Journal of Horticulture* on the present occasion are all representative of fruit, the Great Fruit Show being our justification for this. The central one gives a bird's eye view of the transept, embodying several of the more important trade collections. Then, too, we have a comprehensive view of the choice fruit class, together with *Rubus pœnicolasius* from Messrs J. Veitch & Sons, Ltd.; Plum Grand Duke from Messrs. T. Rivers & Son; Apple Stirling Castle from Messrs. J. R. Pearson & Son; and Apple Bismarck from Messrs. G. Bulyard and Co. With the exception of the *Rubus*, examples of all these excellent fruits were seen in one or other of the sections of this splendid show, of which our report commences on page 312.

Jottings.

For the past fortnight I have been wandering, in the company of a tried and trusty companion, up and down, as fancy led us, the counties of Hampshire, Wilts, and Dorset. I do not propose to give any detailed account of these wanderings, which were undertaken more with a view to studying the country traversed and the various cathedrals, old churches, and ancient remains of the Druids and Romans than with any idea of horticulture, but I mention the fact in order that I may just say how very delightful such a tour may be, especially given such delightful weather as we have had during the past month. One mounts one's bicycle with sufficient baggage for a day or two and sends on a further store by rail to some convenient stopping place, and then one is free to turn north, south, east or west, and can make long days or short ones at will. One of the great charms of such a holiday is the fact that for the greater part of the time one has no known address, and consequently the daily post and the sixpenny telegram are things which trouble not; then comes a week end when one picks up the baggage and the packet of home letters, which at such a time are doubly valued; other things must wait, and amongst them "the Journal," so that when one gets back and dips into its familiar pages there is quite a store of reading to be got through.

This somewhat lengthy introduction will explain why these notes touch upon matters some of which are getting ancient to many of your readers. First of all, I would ask, as I believe has more than once been asked before, why do not your correspondents give us some idea of the locality they write from? I know the native modesty of many gardeners (I use the word in its widest sense) compels them to use a *nom de plume* or bare initials, but the world is wide, and it would not perhaps be asking too much if they would add the county they write from, or even if they are north or south of the border or dwellers in the sister isle. Were this done your readers might glean information as to the habits of the plants, fruit, or what not in various localities, and the common stock of knowledge be increased, whereas now one is simply confused by reading that things one knows to be good are somewhere or other accounted inferior, and *vice versa*.

Let us take for example the article by "B." upon early Apples. Doubtless his remarks are apt and true in his locality, but what grower in the North Midlands would call Duchess of Oldenburg more a dessert

than a culinary Apple, or decry its cooking qualities? It lacks the firmness of Dumelow's Seedling, but for an early variety I know no better cooker, and especially is it in demand for making jelly. But to return to the question of stating the locality from which one writes. The article I have quoted is a sort of conundrum to me. First of all I say to myself, having read the remarks upon Duchess of Oldenburg, the writer surely hails from the south, and then, again, when he speaks of Keswicks being fit for cooking in January, he must be far north, and the result is that instead of being instructed I am mystified. I

know, of course, that Keswicks can be kept till January, but I greatly doubt their cooking qualities at that season in any locality; and seeing that we have abundance of midseason and late Apples in cultivation I fail to see why one should try to keep them so far past their best time for consumption.

Now to Pears, how is it that one so rarely sees in a list of choice varieties that most excellent Pear Comte de Lamy? So far as I can see neither Mr. Atkins nor Mr. Raschen mentions it, and yet I know of no finer flavoured Pear except Doyenné du Comice. Of course it is small, and with some folks size is still everything, but happily the silly craze for size is passing away, and people now seldom or never plant such turnip-flavoured things as Beurré Clairveau or Beurré Bachelier, whilst Comte de Lamy, Winter Nelis, and such small but delicious fruits are once more in demand. Let it be noted that both the last named are excellent croppers.

One more wonder and I will close. One reads almost daily of the glut of fruit in our orchards, of Plums unsaleable, and given to the pigs, and so on *ad nauseam*. Can no sensible person devise a means by which the public could be allowed to participate in this bounty given to us, but made by us into a nuisance rather than a blessing? I know, of course, that London and some of the large towns have their costers who retail fruit cheaply, but when one hears how and where this same fruit is stored one



FIG. 84.—RUBUS PHENICOLASIUS (VEITCH).

rather dreads to patronise them; but why cannot the ordinary citizen purchase fresh fruit at a reasonable price?

Let me give an example. A fortnight since Pershore Plums were sold in Nottingham at 2s. 6d. per pot, or 2½ lbs. a penny, and yet I could not find a shop in the town where they were offered under 2d. a lb. No wonder that sales are curtailed and gluts ensue when the retailer is such a glutton for profits. Had they been offered at 1d. a lb. this city of 250,000 inhabitants would have taken them up like a drop in a sponge, and would have hungered for more; but when they never get a taste of good cheap fruit their tastes remain undeveloped.—A. H. PEARSON, *Lowdham, Notts.*

NOTES & NOTICES

Recent Weather in London.—A considerable amount of rain has fallen during the past week, especially on Thursday (the opening day of the Crystal Palace Fruit Show) and on Sunday. From then until Tuesday the days were pleasant and the nights cold, with heavy morning dews; a light rain fell on the latter day. Wednesday was warm and bright.

September Rainfall.—In London the total rainfall for last month was rather over six-tenths of an inch, three-fourths of the amount occurring in the last week. The total was only 29 per cent. of the average, and was, with the exception of 1898, the smallest recorded in September for at least thirty-five years past; in 1898 the total was rather less than one-half of that registered last month.

Wanted—Some Ladybirds.—To combat the aphid plague on fruit trees the Cape Agricultural Department has imported from the United States a force of ladybirds. The Government Entomologist has visited the States and consigned thence to the Cape some eight different kinds of aphid-eating ladybirds. The "Cape Argus" reports that:—"The insects, which were conveyed in the steamer's cool-chamber to keep them dormant, reached here in excellent condition, and will, it is hoped, succeed in establishing their species; but some trouble has been experienced in collecting sufficient food to keep them going."

The Robert Fenn Testimonial.—Will you kindly allow me to mention with sincere thanks to the donors the receipt of generous contributions to the testimonial presented to Mr. Robert Fenn in his great age and affliction, from Major Thoyts and Miss Thoyts, and the Rev. Mr. Shepherd, all of Sulhampstead, obtained through the kindly intervention of that esteemed rosarian, the Rev. Alan Cheales of Reading, and also a sum from "Anonymous," Shalford, Surrey. Every amount sent has now been publicly acknowledged, and inclusive of the generous donation from Messrs. Sutton & Sons, the total forwarded to Mr. Fenn amounts to £49.—A. DEAN.

European Plants and Commerce.—In Europe 4200 species of plants are gathered and used for commercial purposes. Of these 420 have a perfume that is pleasing, and enter largely into the manufacture of scents and soaps. There are more species of white flowers gathered than of any other colour—1124 in all. Of these 187 have an agreeable scent, an extraordinarily large proportion. Next in order come yellow blossoms with 951, seventy-seven of them being perfumed. Red flowers number 823, of which eighty-four are scented. The blue flowers are of 594 varieties, thirty-four of which are perfumed, and the violet blossoms number 308, thirteen of which are pleasantly odoriferous.

Experiments in Sugar Beet Growing.—Mr. Sigmund Stein, 323, Vauxhall Road, Liverpool, who has for several years carried out successful experiments in Sugar Beet growing in different parts of the United Kingdom, proposes to continue the work in 1901, and offers to supply gratuitously a quantity of Sugar Beet seed to farmers willing to experiment. He recommends manuring with basic slag. "I have," he adds, "induced a leading firm of producers to place a quantity of basic slag at my disposal for experimental purposes, to be supplied gratis to farmers who undertake a careful experiment with the seed which I shall supply, the experimenters to forward sample roots to me in due course for analysis. As in previous years, I shall make no charge for analysis and report."

The Value of Spraying.—The Ohio Experiment Station publishes a bulletin to show the value of spraying an Apple orchard. It gives the percentage of marketable fruit on sprayed and unsprayed trees of several varieties. Northern Spy sprayed 99 per cent. of marketable fruit, unsprayed 87; Newton Pippin sprayed 89 per cent., unsprayed 40; Rome Beauty sprayed 100 per cent., unsprayed 81 per cent. Whether one gains 49 bushels in 100 by spraying, as on the Newton Pippin, or but 12 as on Northern Spy, it well repays cost. On Baldwins and Greenings they found that the fruit held on the trees longer where they were sprayed. The foliage was healthier on sprayed trees, and this was most noticeable on Ben Davis, which had foliage badly injured by the scab when not sprayed, on many trees all the leaves falling before the fruit ripened.

A Seedsman M.P.—Col. W. G. Webb has been returned unopposed Member of Parliament for the Kingswinford Division of Staffordshire. Col. Webb is the senior partner in the firm of Webb and Sons, Wordsley, Stourbridge. He has two sons with the army in South Africa, one of whom, Mr. Harcourt Webb, was severely wounded and is in hospital.

Brockwell Park.—"Lambeth" writes that the proprietor offers for sale "the remainder of the lovely Brockwell Park estate, which stands like a green oasis in the desert of bricks and mortar we call Lambeth, in the midst of a million souls. A few earnest men have secured about £60,000, after patient effort, towards this purchase, but £4000 is still required to save the land from the jerry-builder and make much-needed playing fields for young and old. Will the Government not make a grant towards this public need?"

Lincoln's Inn Gardens.—Some indignation has been caused among Londoners by the felling of a couple of Sumach trees which stood in New Square Gardens, Lincoln's Inn, and there are not wanting people who accuse the Benchers of an act of shocking vandalism. But the officials say the trees have been removed on the advice of an expert from Kew Gardens, given as long as four years ago. Even with these two trees gone, there is still plenty of leafy shade, and plans are afoot to make this charming corner of the metropolis even more delightful than it now is.

Gardening Appointments.—Mr. C. Foster, for three years head gardener to G. E. Jarvis, Esq., Doddington Hall, Lincoln, has been appointed to succeed Mr. G. W. Eden as gardener to the Earl of Stradbroke, Henham Hall. Mr. G. W. Eden retires after a score of years of service. Mr. Haddon, formerly foreman at Castleboro', Ennis-corthy, has been appointed as head gardener to Lord Ardilaun, Ashford House, Cong, co. Galway, in succession to Mr. T. Scott. Mr. D. Russell, gardener to William Fry, jun., Esq., Wilton House, Ballsbridge, has been appointed to fill a similar position in the gardens of R. Tedcastle, Esq., Marlay, Rathfarnham, in succession to Mr. Caldwell, resigned.

Bananas in Fiji.—The exportation of fruits, and especially of Bananas, continues to rise, and according to the report of the German Consul, the value of the exports rose from £25,477 in 1898, to £30,606 in 1899. Nevertheless this crop is considerably less than could be obtained. The plants are subject to a disease the cause of which is not as yet ascertained. During the first year no injurious appearances are remarked, and the plants bear handsome bunches of fruit, but suddenly they become unhealthy and must be grubbed up. With the aim of overcoming the disease, new plantations are laid down, but under the disadvantage of getting always further from the seaports. Some of the planters are, says a contemporary, importing varieties of Bananas from other countries, in the hope of obtaining one or more which may resist the disease.

Tintern Abbey for the Nation.—The Commissioners of Woods and Forests have purchased from the Duke of Beaufort the Tintern Abbey estate, which comprises the abbey and 5334 acres of land, including nearly 3000 acres of woodland, the most picturesque portions of which are the lofty wooded hills and slopes, with a frontage of no less than eight miles to the river Wye. The famous Moss Cottage and Wyndcliff, from which seventeen counties are said to be visible, form part of the purchase. The estate is near the extensive woods of the Crown in the Forest of Dean. The Crown has also purchased the duke's farms surrounding Raglan Castle, 3169 acres in extent. It was originally proposed that the castle should be included in the purchase, but the duke subsequently withdrew what is undoubtedly one of the most beautiful and picturesque ruins in the kingdom.

The Tints and Tones of Autumn.—In the West autumn has made more strides than in the country nearer London. Already the monotonous green of late summer is yielding to the changing tints of the fall. Even where the leaves have not browned, the ripe nuts give a brown tone to the Beeches. In the hedges autumn's touch is still more manifest. The fiery sprays of Bramble, the glossy dark leaves of the Bryony, the hips and haws red-ripe, and the gay colouring of the wild harvest of berries—wholesome or noxious—these all mark the on-coming of autumn. The berry harvest is a prolific one. Nuts, Sloes, Blackberries, and many other hedgerow fruits all are plentiful, and the warm September sun is ripening and colouring them. Even now the hedgerows are quite prominent in colouring, and in a few days they will show all the rich variety of tint of which they are capable.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

In the Markets.—Lovers of tropical fruit, to whom expense is a secondary consideration, will find a treat in a consignment of Madeira Mangoes and Avocado, or Alligator, Pears just imported. All the Avocado Pears, and most of the Mangoes, have been dispersed among the few west end and city fruiterers who, for the convenience of customers, undertake the risk of handling these delicate subjects. The Mangoes sell for about 4s. a dozen at retail, and the Pears, which are held to possess a very high nutritive value, at about 1s. 6d. apiece. Consignments of Mangoes from Madeira may be looked for weekly for some time to come. There are also a few cases of Sweet Potatoes for sale in Covent Garden. These are as yet little sought after here, though greatly appreciated in the United States and other countries to which they are native.

Irish Gardeners' Society.—The usual monthly meeting of this society was held on 27th ult., the chair being taken by Mr. Philip Geoghegan; the attendance was very good. Mr. Cottier contributed a suggestive paper on "Wasted Opportunities," which created a lively discussion. The essayist insisted that gardeners should endeavour to promote their own interests by means of a wider sphere of mental training than heretofore, and that those qualifying for an appointment in the future should produce certificates entitling them to assume degrees, to be recognised by a charter from Government. After a hearty vote of thanks was passed to the essayist the meeting closed. There was a very good display of fruit from Mr. Acton, Clontarf, the Tomatoes being exceptionally fine; whilst Mr. Ryan, of Coolock, showed an interesting display of herbaceous flowers.

Bristol Gardeners' Association.—The monthly meeting of the association was held at St. John's Parish Room, Redland, on Thursday, September 27th, Mr. A. J. Hancock presiding over a large attendance. The lecture for the evening was given by Mr. J. H. Vallance, and was on the "Advantages to be Derived from the Study and Practice of Horticulture." Dealing with the subject in a very interesting manner, he claimed for gardeners: first, a long and healthy life, comparing statistics on the matter with those of other professions; second, a better and more useful life, contending that there was less crime to be found amongst gardeners than many other classes of workers; third, a fuller life, proving how much the occupation tended to the quickening of the senses, more particularly the power of observation; and lastly, a happier life, claiming that no pleasure could be compared to that derived from the cultivation of fruits and flowers. A short discussion followed, and the thanks of the meeting were voted by acclamation on the motion of the chairman. Prizes for two table Ferns were awarded Messrs. Raikes, Curtis, Shaddick, and Binfield; certificates of merit went to Mr. Orchard for collection of Dahlia blooms, Mr. McCulloch for a Vallota purpurea and Odontoglossum grande; and a special certificate recommended to Mr. Binfield for a new Dahlia.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
September.		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
Sunday.. 23	W.S.W.	deg. 59.7	deg. 58.0	deg. 73.7	deg. 52.5	ins. —	deg. 60.6	deg. 59.4	deg. 58.1	deg. 51.3
Monday.. 24	S. W.	64.1	60.5	69.3	46.9	0.09	59.8	59.6	58.1	36.3
Tuesday 25	W.S.W.	51.9	48.8	62.9	40.2	—	58.1	59.4	58.1	32.3
Wednesday 26	W.S.W.	59.6	54.0	64.7	44.3	—	56.6	58.9	58.1	31.1
Thursday 27	S.S.W.	59.0	58.0	59.6	57.1	0.39	57.8	58.3	58.0	53.0
Friday .. 28	S.S.W.	59.2	55.0	62.7	50.2	0.01	57.6	58.3	58.0	40.6
Saturday 29	W.S.W.	49.8	49.6	65.0	41.5	—	56.5	58.2	58.0	35.5
MEANS ..		57.6	54.8	65.4	47.5	Total 0.49	58.1	58.9	58.1	40.0

With the exception of one or two days the weather has been dull and cool



Preserving Fruit.

THOROUGHLY sound preserved fruit is so much appreciated in the dull months of the year that readers of our *Journal* may find the following mode of use to them. I have been very successful in its adoption. Quite fill the ordinary wide-mouthed fruit bottles with sound fruit; let it be thoroughly shaken down, so that the bottles shall hold as much as possible. Next, firmly fix a board horizontally, in a copper, on which set the bottles of fruit; pour cold water into the copper till it reaches to within about 1½ inch of the mouths of the bottles. Now light the fire and allow the water to heat gradually. As soon as the water begins to boil, the fruit will shrink; when it has shrunk about 2 inches take the bottles out of the copper, and fill them nearly to the top with boiling water, taking care that no fruit floats; pour on the top about a tablespoonful of strong spirit, then cork down tightly and seal, first dipping the lower end of the cork into the spirit. Bladder may be substituted for cork and sealing wax. It is essential that the final closing should be completed while the bottles are quite hot. If a copper is inconvenient, the boiling may be done in a saucepan of the requisite depth over the fire, but the bottles must be prevented from touching the saucepan by means of straw. By adopting the above method, I have had for some winters past a good supply of fruit, perfect in flavour and bright in colour.—W. H.

The Crystal Palace Fruit Show.

VARIOUS were the opinions expressed at the recent fruit show as to its merits, but generally they were very favourable. I thought it on the whole a really grand show, and had this year the special merit of being far more satisfactorily arranged, so that classes came more consecutively, whilst the general effect was better. No doubt everyone could suggest some minor improvements, but these must of necessity be limited. The collections of fruits from under glass were very fine, and Grapes were splendid. Larger bunches may have been seen, but rarely such general high excellence, not a few bunches being in weight, form, and berry perfect.

My exclusive source of disappointment was found in the material falling off of exhibits in the many single dish classes, but there were many entered that made no appearance. Yet in a year such as the present, when Apples are so wonderfully abundant, there was hardly a class that came up to the number of dishes seen last year. That was to me a matter for surprise. But many gardeners intimated that this season the show was a fortnight too early, Apples being later both in swelling and colouring. That reason cannot well apply to early Apples, and some few of those, such as Allington Pippin, Worcester Pearmain, and others of the cooking division, were fairly represented.

But it is possible and probable that the few prizes offered in each class acts against the competitions materially. It is really well worth the council's consideration in rearranging the schedule next year whether it would not be wise to take out several classes in each of the single dish sections, especially of varieties that bring scarcely any competition. It is not desirable that prizes of the same value should be given to some poor samples in a class where there may be only the two dishes, or three at the most, and yet give just the same amount to a couple of perhaps beautiful dishes of some first-class variety of which eighteen to twenty dishes may be staged. There was only one dish of such an inferior Apple as Allen's Everlasting, only four of Braddick's Nonpareil, two of Cackle's Pippin and of Gravenstein. The very best class in the dessert section was the last one for "any other variety," and there were here shown beautiful fruits that could get no prize, two only being offered, that were a long way superior to some that in other and specified classes obtained prizes. That is a pity, as it puts a premium on inferiority.

In another direction six liberal prizes were offered in two classes for a variety, and so far as I saw there was only one dish staged. So much for the effort to boom varieties little known and less grown. I would suggest that one-third of the less popular Apples in the single dish classes be cut out, leaving them to take their chance in the any other variety classes, the prizes in each of these being increased to six, and a third and fourth being added to all the other classes. I fear gardeners generally when they see, as this year, how Kentish Apples take the prizes they will be less than ever desirous of competing unless the prizes in the classes are materially increased. The reduction of the varieties in the single dish classes by one-third would easily render this possible.—A. D.



Propagating Pansies.—The Pansy is a florist's flower that has been brought to perfection by care and culture; but without all that particular attention, which every gardener cannot bestow, it is a very beautiful and lively flower for the border, and blooms so long that it is worth while to increase it as much as possible. During this month slips and cuttings may still be taken, but let damp weather be chosen for this process, or else water and shade are very requisite. A few small beds entirely occupied with various coloured Pansies, dotted about upon a lawn, have a rich and lovely effect, and their scent, though slight, is very agreeable. I strongly recommend everyone to procure as many slips of these plants as possible of every hue, and not to be disheartened if the flowers are not so fine or perfect as those of his or her neighbours. They will look gay and bright, and last as long as any of the choicer varieties.—J. F.

Autumn Cauliflowers.—Judging by what is seen in the shops and on barrows, stalls, and in the town streets, Autumn Giant Cauliflowers should be wonderfully abundant. But even stronger evidence may be found in the huge breadths of these products seen in market fields, where the masses show what a supply is to hand. It is to be hoped that many breadths have been planted late, otherwise the general stocks will be in and over before the end of October. Last year, because dry weather delayed growth, we had a plentiful supply of white heads up to Christmas. Certainly there should be no lack of other winter greens long after Cauliflowers are over, but none of those equal in excellence good firm Cauliflowers. What a gain to the people as an article of food has been this grand vegetable, the Autumn Giant. The raiser, whoever he may have been, merits as fine a statue as any military hero.—OBSERVER.

Storing Potatoes.—Great care should be taken in storing Potatoes. Fermentation must either be avoided or provided for, that is to say, an escape for the damp air, which is sure to be generated. Those who possess outhouses or sheds will do well to spread the Potatoes over the floor about four or five deep, covering them with straw or old cloths in order to prevent greening. The latter advice must be particularly attended to, and the place should be kept as dark as possible; no Potatoes will long retain their fitness for the table if exposed too freely to the air and the light. Potatoes should be taken up when dry and instantly removed and covered up from the air. All Potatoes for seed should be selected at taking up time and kept from the common stock. Any outhouse floor will do for them, light need not be excluded, and they will lie, if needs be, 6 inches deep for many weeks. A shed or room on the north side of the building is best for them.—E. R.

Apple Chatley's Kernel.—In the Apple plantation at Chiswick this year is a very little known variety named Chatley's Kernel that is on quite a small tree some three years planted carrying a heavy crop of undoubtedly fine fruits. This variety is so little known that it has not found its way into the latest edition of the "Fruit Manual," and into very few trade lists. I note that Mr. Bunyard in his well-known book just refers to the variety as a desirable late fruit which must be left on the tree as late as possible to perfect growth. How far that may be needful I do not know, but it is an undoubted fact that all late Apples keep best the longer they are allowed to hang on the trees in October. Mr. Bunyard describes its season as from February to May. Mr. S. T. Wright mentions that it keeps almost till Apples come again. If that be so it rather leads to the inference that it is more suited for cooking, like the Old French Crab or Norfolk Beefing, than for the table, yet it is classed as a dessert variety, and undoubtedly it bears most resemblance to a dessert sample, yet the fruits are of medium size. The one I measured, a fair representative specimen, was just 3 inches in diameter and 2½ inches deep, the form being very much that of Cox's Orange Pippin. Stalk, three-quarters of an inch long, inserted in a cavity one-third of an inch deep. Eye, small, and partially closed, with small pointed segments. Skin, greenish, much flushed nearly all over with red, which is somewhat streaked on the shaded side, and is dotted all over with tiny russetty spots. The fruits are distinct in appearance and easily recognisable. There are no ribs.—A. D.

Coir.—This is the trade designation for a manufactured product of the Cocoa-nut Palm. The part of the plant used for making coir is the fibrous husk, which is reckoned amongst the less noteworthy fibres. Its commercial importance must not, however, be undervalued, as the annual trade returns show a steady increase of the product. In India the fibre is extensively utilised for cordage, and it is likewise used for brooms and brushes. But its chief use is for carpet matting, and some of the finest fibres have been employed to make stair-carpet. The fruit of the *Cocos nucifera* likewise yields an oil technically termed copra oil; at present its chief economic importance is as an agent employed in the soap and allied factories.—A. O'N.

A London Botanical School.—Professor F. W. Oliver, in delivering the introductory lecture to the new session at University College on Tuesday, dealt with the importance of the science of botany in connection with its relation to medical training, and announced amid applause that London would shortly possess a Botanical Institute similar to those already existing in Glasgow, Cambridge, and Liverpool, and which were to be met with in most of the important cities on the Continent. He hoped in the near future to see a school of botany under university control in full working order at Regent's Park; and although the work of founding and maintaining an institute would be costly, this was a difficulty which he thought would be satisfactorily grappled with.

Flowers and Berries.—Among the gay plants of summer still abloom in many places is the Golden Rod. It grows in abundance on the railway embankments, and also by the turfy roadsides and on dry heaths and wild places. The Golden Rod at a distance may be confused with the Ragwort (which also lingers still), from which, however, it is quite distinct. Another brilliant yellow flower to be seen now is that of the dwarf Furze. It is as bright as the Broom of midsummer, and not less welcome. The hedges are covered with berries this autumn. I never recollect seeing a greater profusion. Hips and Haws and Gueldres Rose and Wayfaring Tree berries and purple Sloes are to be seen in thousands on every hedge. What a winter feast for the birds! The old belief still prevails among the villagers that an abundance of berries means a hard winter.

Siberian Crabs.—These are good for planting in mixed shrubberies or for single specimens on lawns, and when in bloom will vie with the Apple or Pear for beauty. There is a double-blossomed variety that blooms the end of May or first half of June (according to season) very similar in colour to the majority of Apple blossom, but being double it travels well, and is useful as an auxiliary in cut-flower furnishing. It has a good crop of fruit this year as well, but small—not much larger than Hawthorn berries. The scarlet Cherry-fruited kind (*Pyrus cerasifera*) is very ornamental, and is highly prized by some as a preserve. But the most ornamental to my knowledge of all, in my estimation, is a yellow-fruited kind, with long stalks, hanging on the trees in bunches, and singly. The fruit is as large as the Golden Pippin, but of a very bright yellow. This variety, I think, is not very common, and is known as the Twin or Cluster Golden Pippin.

Cestrum aurantiacum.—This is one of the sweetest and handsomest plants for the pillars of greenhouses or conservatories; but it will not flower without plenty of air and light. It blooms most freely if planted in a compost of turfy loam two-thirds, leaf mould one-third, and sharp sand one-sixth, either in a greenhouse border or in a pot. It may be trained to a pillar, roof, or wall, its shoots being thinned so as to have plenty of air and light, and no creepers or other plants should shade it. If thus treated it will flower freely in autumn and winter. The roots should be rather cramped or confined. Do not stop the shoots, for it blooms from their points; keep it well supplied with water, and afford occasional applications of liquid manure at intervals, especially if the root room be small, not only when it is growing, but flowering. After blooming, keep the plant dry for a month or six weeks, then prune it rather closely; and, when the new shoots appear, thin out the weakest, top-dressing with rich soil if in a border, or repotting if it is in a pot. Afterwards keep rather close and moist, also shaded for a few days until the roots are working in the fresh soil. Keep it well supplied with water, and encourage growth by frequent syringing; then lessen the supply of water, but not so as to cause the leaves to turn yellow and fall; expose fully to air and light, and you will find the shoots thicken at their points. When the shoots commence to show bloom, water freely, and afford a supply of liquid manure once a week.—C. T.



Forthcoming Shows.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the respective secretaries:—

Oct. 9, 10, 11.—ROYAL AQUARIUM.—R. Dean, V.M.H., 42, Ranelagh Rd., Ealing, W.

Nov. 7, 8.—BOURNEMOUTH.—James Spong, Lindisfarne Gardens, Bournemouth.

„ 9, 10.—SHEFFIELD.—Wm. Honsley, 28, Joshua Road, Sheffield.

„ 14, 15.—HULL.—Edward Harland, Manor Street, Hull; Jas. Dixon, F.R.H.S., 2, County Buildings, Hull.

„ 14, 15, 16.—YORK.—G. F. W. Oman, 38, Petergate, York.

„ 16, 17.—BOLTON.—Jas. Hicks, Markland Hill Lane, Heaton, Bolton.

„ 16, 17.—BRADFORD.—R. Eichel, Eldwick, Bingley.

„ 16, 17.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.

Seasonable Notes.

GROWERS of these flowers have not had anything to complain of in the matter of weather during the past few weeks. Fine sunny days and heavy night dews have tended to swell the buds most rapidly; and from what one notes generally they are pushing well out from the leaves. This is a fairly good sign that later development will be satisfactory. The time, too, is approaching when the plants must be placed under glass. In fact the earlier buds are showing colour, and these ought to be under cover at once. It is unwise to allow any damp to touch them when in this stage, for in the case of big blooms it is rare if they open without exhibiting some defective marks, should outside conditions be given them too long.

Housing.

A cultivator's troubles may be said to begin the moment the plants are under glass, that is if all the necessary items be not properly carried out. Careful people will see that the houses are clean in the first place, and also that each plant is thoroughly examined. Superfluous leaves may be taken from the bottom of the stems without harm, and those with the slightest sign of mildew must be dusted with sulphur. This done before housing saves a lot of worry afterwards. Of course each grower will arrange the plants as convenience dictates, but stand them as far apart as room will allow. One often sees a hundred plants huddled into a space not large enough for half the number to grow properly. Then in a very short time the leaves at a considerable distance up the stem decay, much to the disadvantage of opening blossoms.

Watering and Syringing.

If houses can be devoted to Chrysanthemums so much the better, because one may give air, fumigate, or do such like things without damage to other occupants. Vineries and Peach houses are structures very convenient, as they are usually roomy, and at this time of the year the foliage is falling, yet enough is left to provide a slight shade. When the plants are put under glass we have found it important to let the roots get on the dry side. If moisture is given too freely stagnation follows, but on the other hand by allowing the roots to become somewhat dry, the leaves soon get accustomed to new conditions, and to prevent a severe check through being taken from natural dews we would syringe the plants twice each day, without, however, damping the flower. In a very few days rootlets will be seen running over the surface of the soil. This will show that moisture may be given as regularly as when the plants were in the open air, subject only to the requirements of the weather.

Ventilation and Temperature.

At first it is well to fumigate the houses once or twice. This settles any aphids, which is sure to become troublesome later when fire-heat is employed; this is if the matter is neglected. And air may also be given in abundance by throwing open doors as well as ventilators, decreasing this as the blooms unfold. If possible only close the houses to keep out fog, for air is most important in aiding substance of the florets. Use fire heat only when necessary to expel fog or damp in the daytime and to prevent low temperature at night. A heat of 55° is conducive to the proper opening of the more

fantastic-formed Japanese flowers, and a few degrees lower in the case of incurved types. The petals of these have a tendency to reflex in undue warmth.

Do not Forget the Details.

Shade from the sun, but rather have blinds than more permanent shading of the glass, because light is required in dull weather. Damping in the blooms is often a source of trouble. We ourselves have never, to any great extent, been worried this way, and attribute our escape to allowing ample air in the early morning to clear the surroundings of accumulated night moisture. These notes are intended to assist those who are growing the Chrysanthemum for large individual blooms, in which case the smallest details should not be thought too minute, for it is the small things done at the proper time which lead to success. For example, a floret here and there may by some means decay. If such be promptly removed a fine flower may be spared, but if left the chances are the same will spread. Badly formed ones should also be taken away, and each bloom be assisted to open if necessary. The well-formed incurved blooms we see at exhibitions are thus assisted. It may be a goodly part of a flower wants removing, especially near the centre, as many sorts have more florets in them than can possibly open properly. This removal should be done whilst the blossom is growing if we wish to get the globular formation. Continue the use of stimulants, but always bear in mind that weak and often is the rule. An overdose will kill the roots and stop further development of the blossoms.

Exit Rust?

It is pleasing to note that we have this season heard little of the Chrysanthemum rust. The pages of the Journal also lead one to believe that it is not prevalent in any district. This fact would seem to bear out the opinions of some authorities a year or two back that the trouble was but a fleeting one. In our case it is gone without any very special means being taken to eradicate it. —SPECIALIST.

Parasitic and Insect Enemies.

MILDEW and rust are the two most virulent parasitic pests which infest Chrysanthemums, and both are very liable to be present on plants at this season. Sometimes the attacks are more or less evident earlier in the year, and should the season be favourable for the spread of the fungus the white mildew can be easily seen, especially on the under sides of the leaves and also on the stems, where it lives and thrives to the detriment of the plant. Mildew is more or less common to all cultivators, but some experience its disastrous effects more than others. Rust is not quite so common, and many growers are quite free from it. Mildew cannot stand repeated applications of sulphur, and by persisting in dredging it upon affected leaves and stems it may be destroyed. The readiest manner of distributing it however, is to mix a pound of flowers of sulphur with 1½ ounce of freshly slaked lime, and boil in 5 quarts of water of water until it is reduced to half quantity. When the sediment has settled strain the liquid through a fine hair sieve or piece of muslin, and bottle it. To a 4 gallon can of water add 2 ounces, mixing well, and syringe the under sides of leaves as well as the upper surface. Lay the plants down on a mat during the operation.

Another excellent remedy for mildew is sulphide of potassium applied to the affected parts with a sprayer, so as to economise its distribution. The proper strength to use the sulphide of potassium is half an ounce to the gallon of hot water, and when the mixture has cooled down it may be used. This is also the best remedy for the rust, applying frequently, and reaching as far as possible every affected spot.

Green or black fly sometimes attacks the plants, but it is generally owing to inattention in applying water to the plants. Tobacco powder soon destroys, though the most effectual way is to vaporise the structure where the plants are growing. Vaporising is the most modern method of destroying soft bodied insects like aphides, and quite supersedes the old style of fumigating with tobacco paper. It is safer and more effectual than fumigating, bringing down the insects in shoals. It should be done before the blooms expand, the second week after housing being a good time.

The havoc wrought by earwigs in large or small blooms is well known, and examination must be made of the plants by lamp light, when these insects are unusually prevalent.—E.

The Cheapside Plane.—In the widening of Wood Street now proceeding special efforts are being made to preserve the old cherished City tree, which it has been said "gives to Cheapside that one touch of nature which sets the tired man a longing for the country." The railings have been removed, and in preparing that portion of the ground which will be thrown into the public thoroughfare preparatory to relaying the stone pavement the men have been careful not to injure the roots exposed or to chip the bark of the trunk.

British Grown Fruit.

Crystal Palace, September 27th, 28th, and 29th.

ONCE more the great exhibition of British-grown fruit held annually in the Crystal Palace has come and gone, and again we have to chronicle an unqualified success. Amidst the many thousands of individual exhibits there were of course those of inferior quality, but they formed an infinitesimal minority, for, generally speaking, the standard was exceptionally high. The fruits, it is true, had not the size that has characterised them at some previous shows, but there was a clearness of skin and a brilliance of colour that have not been common in the past. Pears especially were wonderfully refined, and several varieties have seldom been exhibited in such excellent form. It is gratifying to learn, too, that with the general improvement in quality came a rise in quantity, the entries in this section being double those that are customarily received. The most noticeable instance of diminution in numbers was in the single dish Apples classes, where the exhibitors showed material decrease. The competition, however, remained just as keen, if not a little keener, owing to the high merit of the majority of the specimens. A notable absentee from this and other sections was Mr. Mackenzie of Linton, who is suffering from indisposition, subsequent, we believe, upon an attack of pneumonia. Mr. Woodward, who was missing last year, was back this time in his old form; but another Kentish grower, Mr. W. T. Stowers of Sittingbourne, proved a foeman worthy of his steel, and certainly secured a full share of the laurels.

Stone fruits came right to the front on the present occasion and were staged in exceptionally large quantities. As with Pears, we were informed, the entries of Peaches, Nectarines, and Plums were double those of last year's show. In each case, too, they were of magnificent quality, and had with great size a beautiful richness of colour. It was pleasing to observe with what care the individual fruits had been packed, for the abundant bloom on some of the Plums was scarcely touched, notwithstanding the fact that they had travelled many miles by road or rail, or both. We found in one of the Plum classes that the second prizewinner had not named his fruit. This at an exhibition like the present, which is essentially of a highly educational value, is a serious omission, and it should involve disqualification at future meetings. The measure may be drastic, but if the greatest value is to be derived from the shows then it is quite essential, as to the lay mind a dish without a name conveys nothing; it is a Plum or a Peach or an Apple or any other fruit and no more.

In no section was improvement more manifest than in the Grape classes, which throughout indicated decided progress. The competition in some of the classes was disappointing, notably in that for the Wood trophy, for which only two growers competed, and furthermore neither was up to his proper standard. In the remaining Grape classes there was occasionally very smart competition, and almost invariably fine quality. White Grapes were not, we think, quite up to the mark, as in almost every instance with Muscat of Alexandria the berries, though large and of good form, had not the depth and richness of colour which is universally regarded as compatible with perfection. The magnificence of the black varieties, however, served to take the average excellence above that of the immediately preceding shows under the same auspices at the Crystal Palace.

The market growers' section in the opinion of those versed in this aspect was a marked advance on previous occasions, but still fell very far below what it will have to be before it is entirely representative. With these views we are in entire consonance. The produce shown and the systems of packing were of the first quality, and were a few dozens more of exhibitors to bring forward examples of their craft we should find the section become an exhibition in itself. And what a valuable one it would be! For does it not teach the grower of fruit for market, who is a little inclined to be slipshod in his methods, how he must proceed ere he can attain to the greatest success? We met one grower at the Palace who proudly asserted that sending the finest produce, and packing in the most approved style, had insured him returns that were 200 per cent. over average market prices. Such a man as this should surely have other secrets to tell beyond excellence of produce and packing. As usual the nurserymen's competitive classes were a magnificent success, and we know that it was an eye-opener to some American cousins who could

scarcely believe that such fruit could be produced in Old England. This proves that the Americans do not yet know everything.

Let us look for a moment at another aspect of the entire question. This has relation to the schedule and its prizes. We think the time has now come for the Council of the Royal Horticultural Society—to whom all honour is due for the excellent work already done—to adopt a more generous policy in its prize list. We do not think the major portion of the growers show so much for mere monetary gain as for the honour of the society and the country. It is, however, quite obvious that a gardener cannot be continually putting his hand in his pocket for the wherewithal to bring himself and the products of his skill to London to uphold British prestige in a friendly arena, and help swell the coffers of the Crystal Palace Company. The society boasts of its numbers of Fellows, its status, and its affluence, and we would therefore suggest that three prizes be given in every class, and that the value of the awards in the more important be materially raised. We think that the gardener should have a chance of earning something towards out of pocket expenses. It might be argued that he has such chance already, but this is very doubtful. The large grower may be quite safe, and can take care of himself; it is on behalf of the smaller man that we put forward this plea. Offer more prizes, and these, if possible, of higher value, and we are confident that the show will improve. Maintain the conditions of the moment, and we fear that it must of necessity dwindle away until to designate it a representative show of British grown fruit will be nothing short of a farce. It must ever be remembered that it is not the one or two "big" men that make a national show, but the multitude of smaller though not less earnest people, and these should have a proportionate chance of reasonable success.

We would, too, call the attention of the Council to the practice of certain nurserymen who, having failed to get an award as competitors, place cards on their stands bearing the words "Not for competition." This is not as it should be. If they enter in a competitive class and are honestly beaten they should take their defeat like men, and not try to cloak their discomfiture beneath the words "Not for competition." The representative of one firm made matters worse by assuring the reporter of one of our contemporaries that the collection had never been entered for competition. Surely the Council could prevent this, and also the practice, that is in direct contravention to the rules, adopted by a certain manure firm, of scattering their cards over any and every stand to delude the visiting public into thinking the produce exhibited was grown by the aid of this artificial food.

We must not close our introductory remarks without an acknowledgement of the admirable arrangements of the whole show, and of the courtesy extended to everyone by the Rev. W. Wilks, and Messrs. S. T. Wright and T. Humphreys, the superintendent and assistant superintendent respectively. Beyond a somewhat serious delay before judging was commenced everything ran as smoothly and pleasantly as possible. The preparation of our exhaustive report of the show was largely facilitated by the arrangements, and the readiness of the officials named to afford all germane information.

OPEN to GARDENERS and AMATEURS ONLY.

Collections of Under Glass Fruits.

In addition to a money prize of £4, Sholto H. Hare, Esq., presented a silver cup to the winner in the class for a collection of nine dishes of ripe dessert fruit, six kinds at least, only one Pine, one Melon, one black and one white Grape allowed, not more than two varieties of any other kind, and no two dishes of the same variety. The premier position was secured by Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby. The exhibit comprised Grapes Black Alicante, fine in berry and colour; Muscat of Alexandria, splendid berries and colour, but rather loose in bunch; Peaches Prince of Wales and Golden Eagle; Apple Cox's Orange Pippin, remarkable colour; Fig Brunswick; Pear Doyenné du Comice; Melon Premier, very handsome; and Pine The Queen. Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, Ledbury, was an excellent second. He showed Grapes Gros Maroc, splendidly finished, and Muscat of Alexandria, long in bunch and berry, but with several greenish berries; Melon Countess, very fine; Peaches Sea Eagle and Barrington, excellent; Pear Pitmaston Duchess; Nectarines Pine Apple and Albert Victor, and Apple Ribston Pippin, very fine. Mr. J. McIndoe, gardener to Sir J. W. Pease, Bart., Hutton Hall, Guisboro', was third. Pears Beurré Hardy and Souvenir du Congrès, Apple Washington, Pine Queen, and Melon Hutton Hall Green Flesh were the best dishes. There were four exhibitors.

Mr. W. Mitchell, gardener to J. W. Fleming, Esq., Chilworth Manor, Romsey, Hants, annexed the first prize in the class for a collection of six dishes of ripe dessert fruit, four kinds at least, only one Melon, one black and one white Grape allowed, not more than two varieties of any other kind, and no two dishes of the same variety, Pines excluded. The winning exhibit comprised Grapes Madresfield Court, fine colour,

and Muscat of Alexandria, a little green and occasionally small in berry; Peaches Sea Eagle and Princess of Wales, both very handsome; Nectarine Elruge, small but of excellent colour, and Pear Williams' Bon Chrétien. Mr. J. Dawes, gardener to M. Biddulph, Esq., Ledbury, was second with Grapes Muscat of Alexandria, loose in bunch; and Black Alicante, finely finished; Peaches Barrington, grand colour and size, and Princess of Wales; Nectarine Albert Victor, very good, and a fine unnamed Melon. Mr. J. Lock, gardener to C. Swinfen Eady, Esq., Oatlands Lodge, Weybridge, was a good third with Grapes Muscat of Alexandria and Alnwick Seedling, Plum Coe's Golden Drop, Melon Al, Peach Barrington, and Pear Williams' Bon Chrétien. There were ten competitors in this class.

Grapes.

Messrs. Wm. Wood & Son presented to the society, in celebration of the Jubilee year of the firm, a silver challenge cup value 50 guineas, the winner to hold the cup for twelve months only, when it will be again offered for competition, until it eventually becomes the property of the exhibitor who shall have won it three years in succession. The requirements were for six distinct varieties of Grapes, three bunches of each, both black and white had to be represented. Mr. J. H. Goodacre was placed first with Black Hamburg, red in berry, in two bunches; Muscat Hamburg, also red; Barbarossa, grand bunches of small berries; Muscat of Alexandria fine; Black Alicante and Gros Maroc, excellent. Mr. W. Taylor was a good second with Gros Maroc, Chasselas Napoleon, Mrs. Pince, Lady Downe's, Muscat of Alexandria, and Black Alicante.

There were three contestants in the class for three distinct varieties of Grapes, three bunches of each, and the first prize went to Mr. W. Shingler, gardener to Lord Hastings Melton Constable, Norfolk, who showed superb Gros Colman and Alnwick Seedling, but his Muscat of Alexandria, though fine in size, were not quite perfect in finish. Mr. J. Dawes was second with good Gros Maroc and Alicantes, and poor Muscat of Alexandria. Mr. J. Lock was third with Alnwick Seedling, Black Alicante, and Muscat of Alexandria.

Mr. W. Mitchell was first for three bunches of Black Hamburg Grapes with handsomely finished bunches; the berries were very fine, and the colour perfect. Mr. A. R. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge, was second with good berries, several of which were slightly red at the shank. Mr. A. Kemp, gardener to C. R. S. Dickens, Esq., Coolhurst, Horsham, was an excellent third. There were seven entries in this class.

For three bunches of Madresfield Court Grapes Mr. W. Mitchell was an easy first. The bunches were not large, but the berries were grand in size and finish. Mr. W. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill, was second with bunches that comprised many red berries. There were only two entries.

In the class for three bunches of Mrs. Pince Grapes there were five exhibitors, of whom Mr. W. Mitchell was again placed first with splendid bunches composed of fine berries slightly red at the shank, as is common in this variety. Mr. W. Camm, gardener to Duchess of Cleveland, Battle Abbey, Battle, was second with good bunches, of which the berries had got rubbed in travelling.

The prizewinners in the class for three bunches of Alicante Grapes

were Messrs. W. Shingler, W. Mitchell, and W. Howe, gardener to Lady A. Tate, Park Hill, Streatham. The winning bunches were superb in every respect. Mr. Mitchell's exhibit was lighter in weight, but quite equal in other respects. There were six entries in this class.

Mr. W. Taylor was placed first for three bunches of Lady Downe's (black) Grapes with beautiful examples. The berries were a little small, but wonderfully well coloured. Mr. W. Mitchell was second with smaller bunches and larger berries. Five growers contested this class.

In the class for three bunches of any other black Grape there were seven exhibitors. Mr. W. Shingler was a grand first with Alnwick Seedling; the berries and bunches were quite perfect. Mr. William Allan was second with excellent examples of Gros Maroc; and Mr. G. Lane, gardener to Mrs. Ridge, Highfield, Englefield Green, third with Appley Towers, fine in berry and of splendid colour.

There were nine contestants for the honours in the class for three bunches of Muscat of Alexandria Grapes, and some handsome bunches

were contributed. The first prize went to Mr. W. R. Allan. The berries were of remarkable size, and the form of the bunches excellent, but a few green berries were apparent. Mr. J. H. Goodacre was second with large bunches, varying considerably in colour of berry. Mr. W. Lintott, gardener to Walpole Greenwell, Esq., Marden Park, was third.

For three bunches of Mrs. Pearson Grapes the first prizewinner was Mr. W. Shingler, who was, in fact, the only exhibitor. The bunches and berries were both very good, but they had taken on a most peculiar colour.

In the class for three bunches of any other white Grape Mr. W. Taylor was placed first with grand bunches of Chasselas Napoleon; the bunches were of perfect shape and the berries very fine. Mr. G. Lane was second with the same variety, and Mr. A. Child, gardener to H. A. Attenborough, Esq., Catesby House, Daventry, third with admirable examples of Buckland Sweetwater.

Peaches, Nectarines, and Plums.

In the class for one dish of Peaches, one variety, grown under glass, the first prize was accorded to Mr. W. Mitchell, who contributed superb fruits of Sea Eagle. Mr. J. A. Rogers, gardener to J. B. Fortescue, Esq., Dropmore, Maidenhead, was second

with Noblesse in handsome form. There were thirteen competitors in this class.

Mr. G. Mullins was awarded the premier prize for one dish of Nectarines from under glass, one variety, with superb fruits of Albert Victor. Mr. F. W. Thomas, Wannock, near Polegate, was second with Spenser of truly remarkable colour. Ten growers competed for the two prizes offered.

There were four competitors in the class for three dishes of dessert Plums or Gages, distinct, from under glass, and the premier position was adjudged to Mr. J. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton, who showed perfect fruits of Reine Claude de Bavay, Golden Transparent Gage, and Coe's Violet. Mr. J. H. Goodacre was placed second with fine fruits which were unnamed.

Collection of Hardy Fruits.

The first prize of £3, augmented by the Hogg Memorial medal, in the class for a collection of hardy fruit, fifty dishes, distinct, grown

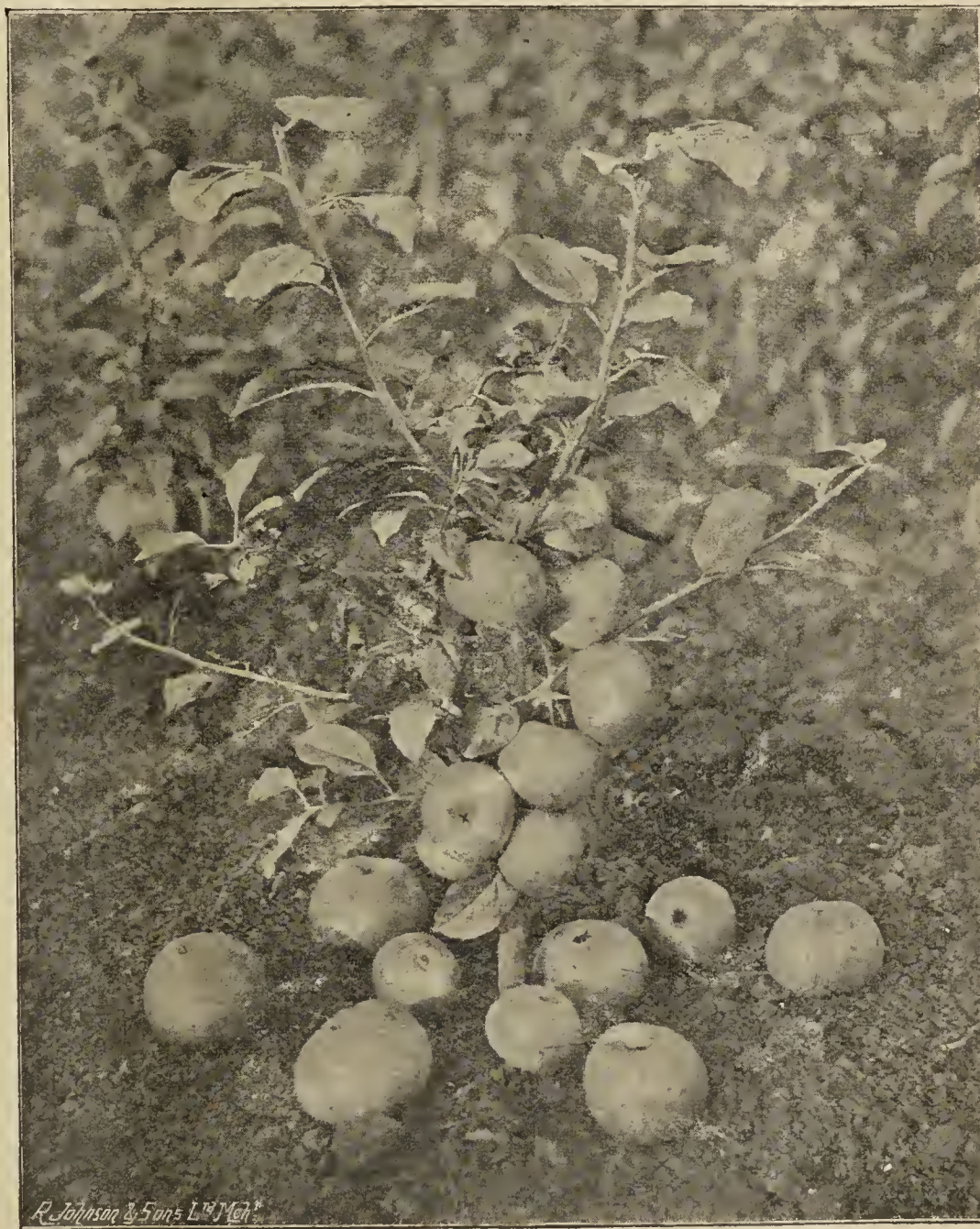


FIG. 85.—APPLE STIRLING CASTLE (PEARSON).

entirely in the open, not to include more than eighteen varieties of Apples or twelve of Pears, was adjudged to Mr. R. C. Sanders. The Apples included St. Edmund's Pippin, Tom Putt, King of the Pippins, Gascoyne's Scarlet, Sandringham, The Queen, Flower of Kent, Emperor Alexander, Peasgood's Nonesuch, Gloria Mundi, Mère de Ménage, Calville Boisbonnel, Newton Wonder, Ribston Pippin, Lady Sudeley, Allington Pippin, Duchess' Favourite, and American Mother. The Pears were Doyenné du Comice, Marie Benoist, Beurré d'Anjou, Duchesse d'Angoulême, Beurré Mortillet, Triomphe de Vienne, Brockworth Park, Easter Beurré, Deux Sœurs, and Gansel's Bergamot. The Plums comprised Belgian Purple, Pond's Seedling, Coe's Golden Drop, Cox's Emperor, Monarch, Grand Duke, Washington, Prince Engelbert, Jefferson, and Magnum Bonum, with the Prune Damson. Then there were Fig Brown Turkey, Strawberry St. Joseph; Peaches Early Alfred, Magdalen, Royal George, Alexander Noblesse, Dymond, Grosse Mignonne, and Violette Hâtive; Nectarine Pitmaston Orange, and Cherry Morello. This was a most excellent collection, the fruits being clean and very bright in colour. Mr. E. Coleman, gardener to T. L. Boyd, Esq., North Frith, Tonbridge, was second with larger Apples and Pears, and a weaker front row.

Collection of Orchard House Fruit.

Mr. J. McIndoe was an excellent first for a collection of hardy fruit, twelve dishes, distinct, grown partly or entirely under glass to illustrate orchard house culture; Grapes excluded. The stand comprised Pears Beurré Hardy, Fondante d'Automne, Louise Bonne de Jersey, and Souvenir du Congrès; Apples Peasgood's Nonesuch (grand), Lady Sudeley, and Jas. Grieve (superb colour); Peaches Princess of Wales and Prince of Wales; Plums Bryanston Gage and Magnum Bonum, and Fig Brown Turkey. This was a superb exhibit that did not contain a weak dish. The second prize was awarded to Mr. R. Potter, gardener to Sir Mark Collet, Bart., St. Clere, Kemsing, Sevenoaks, who staged Pears Durondeau, Marguerite Marillat, Pitmaston Duchess, and Duchesse d'Angoulême; Peaches Princess of Wales; Nectarine, Lady Palmerston, and a seedling; Nectarine Pineapple, Plum Bryanston Gage, and Fig Negro Largo, and an unnamed variety that resembled White Marseilles.

Open Air Fruit—Apples.

The division for fruits grown in the open air, open to gardeners and amateurs only, brought out a magnificent display of our country's choicest fruit. The competitors could only stage in a certain number of classes, thus keeping the large exhibitors from annexing the whole of the prizes. The premier class for twenty-four dishes of Apples, sixteen cooking and eight dessert, brought out a strong team of fruit exhibitors, five contestants staging. The first prize was handsomely won by Mr. Geo. Woodward, gardener to R. Leigh, Esq., Barham Court, Maidstone, who not only staged large handsome fruits, but of grand colour also. The varieties were Wiltshire Defiance, Tyler's Kernel, Warner's King, Emperor Alexander (a grand dish), Stone's, Peasgood's Nonesuch, Belle Dubois, New Hawthornden, Bismarck, Golden Noble, Mère de Ménage, Belle de Pontoise, Lord Suffield, and Yorkshire Beauty. The dessert dishes of Mabbot's Pearmain, Mother (grand in colour), Worcester Pearmain, Calville Précoce, Ribston Pippin, Cox's Orange, Washington, and Wealthy were superb. The second place fell to Mr. W. E.

Humphreys, gardener to A. H. Smee, Esq., The Grange, Hackbridge, Surrey, who staged well, but the collection lacked the finish of the Kentish fruit. The best varieties were Gascoyne's Scarlet, Peasgood's Nonesuch, Mère de Ménage, Emperor Alexander, and Hereford Costard, while good examples of Wealthy, Washington, and Cox's Orange Pippin were in the dessert row; and Mr. S. Deadman, gardener to the South-Eastern College, Wye, was third with some well coloured dishes. The



Sir J. W. Pease's Orchard House Fruit.
Mr. Alfred de Rothschild's Hardy Fruit.

Market Growers' Classes. Messrs. Rivers' Gold Me

FIG. 86—THE CRYSTA

top fruit in the dish of Worcester Pearmain in this class was a small example of Gascoyne's Scarlet Seedling.

In the smaller class for twelve dishes, eight cooking and four dessert, there were four competitors. The first prize was again taken by Kentish fruit, which was awarded to Mr. R. Potter, gardener to Sir Mark Collet, Bart., Kemsing, Sevenoaks, not a weak dish being staged. The varieties were Peasgood's Nonesuch, Gloria Mundi, Warner's King, Withington Fillbasket, The Queen, Mère de Ménage, Lady Henniker,

and Emperor Alexander. The dessert varieties were Ribston Pippin, Fearn's Pippin, Gascoyne's Scarlet, a magnificent dish with the bloom perfect, and Wealthy. Mr. Wm. Maxim, gardener to Col. Horace Walpole, Heckfield Place, Winchfield, who had excellent dishes of Emperor Alexander, Cox's Pomona, Peasgood's Nonesuch, Mother, and Gascoyne's Scarlet was second; while Mr. Chas. Earl, gardener to D. E. d'Avigdor Goldsmid, Esq., Somerhill, Tonbridge, was third,

(a grand colour), Baumann's Red Reinette, and American Mother. Mr. J. Dawes, gardener to R. Biddulph, Esq., Ledbury, who did not label his varieties, a serious oversight at such a show, was second with good dishes of Warner's King, Ecklinville, Tyler's Kernel, and Worcester Pearmain. The third prize was awarded to Mr. W. Jones, gardener to J. R. Brougham, Esq., Carshalton, for dishes of medium fruit with plenty of colour.

There was an entry of four for a class of six dishes of cooking Apples, distinct, and a good collection was the result. Mr. G. Woodward proved invincible. The dishes were all grand. The varieties were Belle Dubois, Peasgood's Nonesuch (a wonderful dish), Emperor Alexander, Warner's King, Mère de Ménagère, and Stone's; Mr. Hamilton Hubbard, Gurney's Manor, Hingham, Norfolk, took the second place with a good even exhibit. His best were Hollandbury, Peasgood's Nonesuch, and Emperor Alexander.

The class for three dishes of cooking Apples had a grand display of eight entries, the general quality being good. Here Mr. W. Davies, gardener to A. W. G. Wright, Esq., Quarry House, Newent, was first with three heavy dishes, the varieties being Mrs. Barron, Warner's King, and a dish of well coloured Peasgood's Nonesuch. Mr. J. Dawes was a capital second with Warner's King, Emperor Alexander, and Pott's Seedling.

Then we came to a class for six dishes of dessert Apples, distinct, and there were six contestants. The class, as a whole, was not quite up to the average, though this could not be said of those shown by Mr. G. Woodward who was to the fore with Wealthy (grand in size and colour), Washington (superb specimens), Cox's Orange Pippin, Ribston, Scarlet Pearmain (grand), and some grand specimens of American Mother. Another Kentish exhibitor secured the second prize in Mr. T. Neale, gardener to C. J. Startup, Esq., West Farleigh, Maidstone, his dishes of Worcester Pearmain, Wealthy, and Baumann's Red Reinette being very good.

The smaller class for three dishes made a good entry of twelve, but the quality was not so good as in the preceding class. Mr. C. Ross, gardener to Captain Carstairs, Welford Park, Newbury, was placed first with a fine dish of Allington Pippin, a pretty dish of Rival, a good looking dessert Apple, and Christmas Pearmain. Mr. W. H. Godden, gardener to F. W. Buxton, Esq., Pishiobury, Sawbridgeworth, made a neat exhibit for second prize; the fruits were not large, but very even. The varieties were Ribston Pippin, Blenheim Pippin of good colour, and Cox's Orange Pippin.

Pears.

The six classes for Pears made a brave start with that for eighteen dishes of dessert varieties, distinct, no less than six collections being staged. It was a wonderful class, for all the exhibitors staged clean, well developed fruits, but Kent was again to the front, the first prize

falling to Mr. C. Woodward, who fairly outclassed his fellow competitors. The exhibit could be summed up in one word—remarkable. The varieties used were Bœurré Superfin, Durondeau, Pitmaston Duchess, Margaret Marillat, and Columbia, these were all enormous fruits of perfect finish; Doyenné du Comice, Duchesse d'Angoulême, Général Todleben (superb colour), Madame Treyve, Benrié Hardy, Bœurré Baltet Père, Bœurré Diel, Doyenné Boussoch, Marie Benoist, Magnate, Emile d'Heyst, Bœurré Alexander Lucas, and Brown Bœurré



Pot Fruit Trees. Messrs. Bunyard's Gold Medal Fruit.

Messrs. Clibrans' Celosias.
Messrs. Veitch's Apples.

PALACE FRUIT SHOW.

with some well coloured samples of Peasgood's Nonesuch, and Worcester Pearmain.

A class for nine dishes, distinct, six cooking and three dessert, gave the smaller growers a chance, and six competitors took advantage of it, the first prize going to Mr. S. Osborn, gardener to the Duke of Fife, East Sheen Lodge, for a well-balanced collection. The varieties were Bismarck, Potts' Seedling (a good dish), Peasgood's Nonesuch, Newton Wonder, Warner's King, Grand Duke Constantine, Worcester Pearmain

Mr. W. Bacon, gardener to Sir Marcus Samuel, Mote Park, Maidstone, made a capital second, thus securing both prizes for the county. Although minus the weight of the former exhibit, the dishes were grand, every specimen being as clean as Keat can grow it. The best varieties were Souvenir du Congrès, Fondante du Cuerné, Triomphe de Vienne, Pitmaston Duchess, Marguerite Marillat, Fondante de Thirriott, Doyenné Boussoch, and Beurré Hardy.

The class for twelve dishes of dessert, distinct, brought out two exhibitors only. Mr. S. Osborn proved the victor, staging medium sized fruits of good finish. The varieties staged were Brockworth Park, Beurré Bachelier, Pitmaston Duchess (grand), Duchesse d'Angoulême, Beurré Diel, Souvenir du Congrès (beautifully coloured), Beurré Hardy, Doyenné Boussoch, Madame Treyve, Durondeau, Louise Bonne de Jersey, and some fine Marie Louise. Mr. A. Maxim was second, staging good specimens of Beurré Bosc, Pitmaston Duchess, Brockworth Park, Flemish Beauty, Beurré Hardy, Beurré Superfin, and Marie Louise.

Then we reached the class for nine dishes of dessert fruits, and there were three exhibits of good type. Mr. W. Jones here gained the first prize for creditable dishes. The varieties were Beurré Bachelier (a fine dish), Souvenir du Congrès, Pitmaston Duchess (very clean fruits), Maréchal de Cour, Marie Louise d'Uccle, Easter Beurré, Urbaniste (a good dish), Beurré Superfin, and Louise Bonne de Jersey. Mr. J. W. Barks, gardener to H. Partridge, Esq., Castle Hill, Bletchingley, was second with capital examples of Pitmaston Duchess, Williams' Bon Chrétien (grand), Conference, and Beurré Superfin.

Coming to the class for six dishes, distinct, we had an entry of eight exhibits. Mr. G. H. Sage, gardener to the Marquis Camden, Bayham Abbey, Lambethurst, Kent, proved a good first in this host of competitors. Souvenir du Congrès, Pitmaston Duchess, Beurré Bachelier, Brockworth Park, Gansel's Bergamot, and one unnamed variety were employed. All were good typical dishes above the average size. Mr. J. Webb, gardener to H. Padwick, Esq., Manor House, Horsham, was second. His best dishes were Pitmaston Duchess, Marie Louise d'Uccle, Beurré d'Amanlis, and Doyenné du Comice.

Then there was a class for three dishes of dessert Pears, and there were eight exhibits staged, forming a good display of average quality. Mr. J. Rich was the first prizewinner, with Pitmaston Duchess, Souvenir du Congrès, and a splendid sample of Doyenné Boussoch. Mr. G. Grigg, gardener to the Earl of Ashburnham, Battle, was second with clean, though smaller, samples of Williams' Bon Chrétien and Brockworth Park.

The cooking Pears had only one class, and that for three dishes, distinct, and strange to say there were only four entries. Mr. R. Potter was placed in the leading position with gigantic specimens of Triomphe de Jodoigue, Uvedale's St. Germain, and Vicar of Winkfield. Mr. Geo. Woodward followed with rather weaker examples, which included General Todleben, Catillac (a pretty dish), and Beurré Clairgeau, the weakest dish.

Peaches and Nectarines.

A class for three dishes of Peaches, distinct, grown entirely out of doors, tempted fourteen exhibitors to take the field, and a grand display they made; the majority were remarkable for their bright colouring. Again Mr. G. Woodward was to the fore with handsome dishes of Sea Eagle, equal to any grown under glass, Princess of Wales (a handsome dish), and finely coloured dish of the Nectarine Peach; the second place was well won by Mr. A. Maxim, who had a grand dish of Gladstone, and typical dishes of Sea Eagle and the Nectarine.

The class for one variety was represented by nineteen dishes, most of them being large and well coloured. Mr. W. Mitchell, gardener to J. W. Fleming, Esq., Chilworth Manor, Romsey, Hants, was first with a superb dish of Lady Palmerston; followed by Mr. W. Sutton, gardener to Earl Stanhope, Cheving Park, Sevenoaks, who staged Barrington splendidly.

In the class for three dishes of Nectarines, distinct, grown under similar conditions, we had four entries, but again Mr. G. Woodward swept the board with splendid examples of Pineapple, Rivers' Orange, and Humboldt, all were of superb colour and finish; while Mr. Chas. Earl followed with Pineapple, Darwin, and Byron.

For a single dish of one variety there were eleven exhibits staged. Mr. A. Child, gardener to H. A. Attenborough, Esq., Catesby House, Daventry, was first for a good dish of Prince of Wales, and the second prize was allotted to Mr. J. Sparks, gardener to R. Beddingfield, Esq., Roehampton, for a medium dish of Humboldt.

Plums and Gages.

There were five classes devoted to Plums, and in such a season of plenty large entries were looked for, nor were the executive disappointed. For four dishes of dessert varieties, distinct, there were twelve exhibitors. Mr. J. Vert, gardener to Lord Braybrooke, Audley End, Saffron Walden, who made a nice even exhibit of Jefferson, Coe's Violet (a grand dish), Rivers' Late Orange, Superb, and Coe's Golden Drop; followed by Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, whose fruit was unnamed, were good dishes of Golden Drop, Oullins Golden, and Jeffersons.

The class for one dish of dessert varieties, Gages barred, there was an entry of fifteen, and both prizes were taken by Coe's Golden Drop—Mr. W. Seaman, gardener to G. Taylor, Esq., Margery Hall, Reigate,

who had a well coloured dish of large size. The second winner was Mr. T. Turton, gardener to J. K. D. W. Digby, Esq., Sherborne Castle, Dorset, who had grand size but not the colour of the winners. A dish of Gages was supplied with seventeen exhibitors, but two exhibitors staged Coe's Golden Drop. This class was excellent, the first prize going to Mr. R. Chamberlain, gardener to F. M. Lonergan, Esq., Cressingham Park, Reading, for a dish of Reine Claude de Bavay, while Mr. A. Maxim was second with a good representative dish of Transparent Gage.

The cooking varieties were grand; in the class for four varieties, distinct, we had no less than sixteen entries, and most of them were very good. Mr. W. Pope headed the list with superb examples of Pond's Seedling, Magnum Bonum (a grand dish), Grand Duke (with perfect bloom), and Archduke. The second place falling to Mr. R. Grigg, who had good samples of Magnum Bonum, Pond's Seedling, and Monarch. For a single dish of one variety there were seventeen entries, Mr. A. Maxim taking premier honours for a grand dish of Pond's Seedling, Mr. R. Turton being second with the same variety in capital condition.

Special District County Classes.

The following classes were instituted some time back to give growers in various counties an opportunity of showing their skill in the production of Apples and Pears. They have been a great success, and much excellent fruit has been contributed to the decided benefit of the general display. The requirements in each case were precisely the same. There were two classes, one for six dishes of Apples, distinct, four cooking and two dessert, with two prizes of the respective values of £1 and 15s. each, with third class railway fare from the grower's home to London; and two for six dishes of dessert Pears, distinct, with a first prize of 30s., and a second of 20s. and railway fares, as in the case of the Apples. Particulars of the winners and their produce are subjoined.

Growers in Kent.—The premier award in the class for Apples was secured by Mr. W. T. Stowers, gardener to G. H. Dean, Esq., Sittingbourne, who showed Emperor Alexander, Peasgood's Nonesuch, Warner's King, Lane's Prince Albert, Worcester Pearmain, and Cox's Orange Pippin, all in fine condition. Mr. S. Deadman, South-Eastern College, Wye, was second with Peasgood's Nonesuch, Stirling Castle, and King of the Pippins as his best dishes. Mr. W. T. Stowers also secured the first prize for the Pears with handsome examples of Pitmaston Duchess, Doyenné Boussoch, Beurré Hardy, Doyenné du Comice, Beurré Clairgeau and Louise Bonne de Jersey. Mr. E. Coleman, gardener to T. L. Bond, Esq., North Frith, Tunbridge, was second with Souvenir du Congrès and Beurré Mortillet in fine form.

Growers in Surrey, Sussex, Hants, Dorset, Somerset, Devon, and Cornwall.—Mr. W. Turton, gardener to J. K. D. W. Digby, Esq., Sherborne Castle, Dorset, was a decided first for Apples with Mère de Ménage, Peasgood's Nonesuch, Hollandbury, Warner's King, Cox's Orange Pippin, and Ribston Pippin. Mr. G. Grigg, gardener to the Earl of Ashburnham, Ashburnham Place, Battle, was second with good Warner's King and fine Ribston Pippin. There were seven entries. In the Pear section a dozen competed, of whom Mr. F. W. Thomas, Wannock, near Polegate, was first with Pitmaston Duchess, Souvenir du Congrès, Marguerite Marillat, Beurré Superfin, Doyenné Boussoch, and Conference, all clean and of good shape. Mr. G. Grigg was an excellent second with splendid examples of Clapp's Favourite, Williams' Bon Chrétien, and Doyenné du Comice.

Growers in Wilts, Gloucester, Oxford, Bucks, Berks, Beds, Herts, and Middlesex.—Five growers competed in the Apple section of this class. Mr. W. Davies, gardener to A. W. G. Wright, Esq., Quarry House, Newent, Glos., was a fairly easy first with Peasgood's Nonesuch (fine colour), Mrs. Barron, Warner's King, Potts' Seedling, Worcester Pearmain (grand colour), and Ribston Pippin. Mr. R. C. Sanders, gardener to Alfred de Rothschild, Esq., Halton, Tring, was second with Emperor Alexander, The Queen, Allington Pippin, and Lady Sudeley (superb) as his best. In the Pear division Mr. W. H. Bannister, gardener to H. St. Vincent Ames, Esq., Cote House, Westbury-on-Trym, was first with Triomphe de Vienne, Souvenir du Congrès, Williams' Bon Chrétien, Doyenné Boussoch, Beurré Hardy, and Durondeau. Mr. A. R. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge, was a poor second.

Growers in Essex, Suffolk, Norfolk, Cambridge, Hunts, and Rutland.—There was only one exhibitor of Apples here. This was Hamilton H. Hurnard, Esq., Gurney's Manor, Hingham, Norfolk, who secured the first prize. He showed fine dishes of Peasgood's Nonesuch, Warner's King, Lord Derby, Potts' Seedling, King of the Pippins, and Cox's Orange Pippin. Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was a fine first for Pears with Beurré Baltet Père, Pitmaston Duchess, Durondeau, Doyenné Boussoch, Emile d'Heyst, and Marie Louise. The second prize was accorded to Mr. W. Harrison, gardener to Col. Archer Houlton, Hallingbury Place, Bishops Stortford, whose best fruits were Doyenné du Comice and Pitmaston Duchess.

Growers in Lincoln, Northampton, Warwick, Leicester, Notts, Derby, Staffs, Shropshire, and Cheshire.—Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, was a very easy first for Apples with grand dishes of Lady Henniker, Warner's King, Peasgood's Nonesuch, The Queen, Duchess' Favourite (grand colour), and St. Edmund's Pippin. Mr. J. Naylor, gardener to H. Knott, Esq.,

Stamford, was second with Warner's King and Worcester Pearmain as his best. There were four exhibitors of Pears, and Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was first with Glou Morceau, Easter Beurré, Winter Nelis, Doyenné du Comice, Duchesse d'Angoulême, and Doyenné Bonsoch. Mr. J. Roberts, gardener to the Duke of Portland, Welbeck Abbey, Worksop, was second with Pitmaston Duchess, Durodean, and Marie Benoist as the best examples. Mr. Goodacre was subsequently disqualified for including orchard house fruit, and Mr. Roberts stepped into first place and Mr. W. H. Divers into the second.

Growers in Worcester, Hereford, Monmouth, Glamorgan, Carmarthen, and Pembroke.—Mr. J. Rich, gardener to G. H. Hadfield, Esq., Moraston House, Ross, was first with Apples, showing Peasgood's Nonesuch (fine), Lord Derby, Warner's King (very fine), Bramley's Seedling, Cox's Orange Pippin, and Worcester Pearmain (superb colour). Mr. R. M. Whiting, Credenhill, Hereford, was second with Stirling Castle, Bismarck, and Worcester Pearmain in handsome condition. Mr. J. Rich was the only exhibitor of Pears, and received the first prize. The varieties were Pitmaston Duchess, Souvenir du Congrès, Beauty of Guernsey, Beurré Hardy, Marie Louise, and Doyenné du Comice.

Growers in the other Counties of Wales.—There were three exhibitors of Apples, and pride of place was adjudged to Mr. R. D. Hughes, 35, Middle Lane, Denbigh, who showed D. T. Fish, Blenheim Pippin, Norfolk Beefing, Northern Greening, Ribston Pippin, and Dutch Mignonne. Mr. S. J. Squibbs, gardener to the Dowager Lady Williams Wynn, Llangedwyn, Oswestry, was a good second with Mère de Ménage of remarkable colour and Ribston Pippin as his best. Mr. G. J. Squibbs was the only exhibitor of Pears, and received the first prize for fair examples of Brockworth Park, Pitmaston Duchess, Fondante d'Automne (?), Beurré Diel, Doyenné du Comice, and Marie Louise.

Growers in the six northern counties of England and in the Isle of Man.—Mr. J. Garside, Larbeck Gardens, Great Eccleston, Lancs, was the only exhibitor in the Apple section, and the fruits were all of inferior quality. The varieties were Grenadier, Warner's King, Annie Elizabeth, Bramley's Seedling (?), five fruits; Orange Pippin, and Worcester Pearmain (three fruits only). There was no exhibitor of Pears.

Growers in Scotland.—Mr. J. Day, gardener to the Earl of Galloway, Galloway House, Garlieston, was placed first for Apples with Warner's King, The Queen, Stone's, Peasgood's Nonesuch, Worcester Pearmain, and Jas. Grieve. Mr. J. Cairns, gardener to the Earl of Home, The Hirsell, Coldstream, was second. His Worcester Pearmain and Baumann's Red Reinette were of fine colour. For Pears Mr. J. Day

was again first with Pitmaston Duchess, Madame Treyve, Gratioli de Jersey, Souvenir du Congrès, Williams' Bon Chrétien, and Louise Bonne de Jersey. Mr. J. Cairns was a creditable second.

Growers in the Channel Islands.—There was not a single entry in the Apple section, and only one of Pears in this class. This was Mr. H. G. Howell, Spring Grove, Jersey, who showed handsome fruits of Pitmaston Duchess, Doyenné du Comice, Louise Bonne de Jersey, Williams' Bon Chrétien, Chaumontel, and the Duchess. The fruits were of great size.

Single Dishes of Open Air Fruit.

This section of the great fruit exhibition is one of the most valuable, as it allows visitors to make many comparisons of the varieties, as they stand practically side by side. Fortunately the classes are popular with the growers, so that, generally speaking, the competition is very keen. On the present occasion there did not appear to be so many entries as usual, but there was a wonderfully good average of quality.

Dessert Apples.

Adam's Pearmain.—Mr. G. Woodward, gardener to Roger Leigh, Esq., Barham Court, Maidstone, was first with fruits of the first size and excellent shape. Mr. Cornelius, gardener to H. H. Williams, Esq., Pencalenick, Truro, was second with slightly smaller specimens. There were ten competitors.

Allen's Everlasting.—There was only one dish of this variety, which might be excluded without disadvantage. Mr. G. Woodward secured the first prize with good examples.

Allington Pippin.—Mr. J. S. Perkins, gardener to L. H. Page, Esq., Bobbing Court, Sittingbourne, was first with an even handsomely coloured set. Mr. C. Ross, gardener to Capt. Carstairs, Welford Park, Newbury, was an excellent second. There were ten contestants for the prizes.

Blenheim Orange.—In this class the schedule required that small highly coloured fruits which would pass through a 3-inch ring be shown. There were eighteen competitors, of whom Mr. W. Davies, gardener to A. W. S. Wright, Esq., Quarry House, Newent, Glos., was placed first with fruits perfect for dessert use. Mr. T. Veale, gardener to C. J. Startup, Esq., West Farleigh, Maid-

stone, was a good second. This was an interesting class, and few exhibitors exceeded the regulation size.

Braddick's Nonpareil.—Four growers competed in this class, and Mr. J. Treadwell, gardener to Surgeon-General C. Planck, Edenbridge, was an easy first with typical fruits. Mr. G. Woodward was a creditable second.

Brownlee's Russet.—Mr. E. Colman was first of the six exhibitors in this class. Mr. G. Woodward was an excellent second. Both growers showed very fine fruits of this variety.



FIG. 87.—PLUM GRAND DUKE (RIVERS).

Claygate Pearmain.—Mr. G. Woodward was first in this class with finely shaped fruits, some of which had a beautiful flush of colour. Mr. H. Ridden, gardener to G. W. Bird, Esq., Manor House, West Wickham, Kent, was a creditable second.

Cockle's Pippin.—There were only two exhibitors, and one dish was so poor that the second prize was withheld. Mr. A. J. Carter, Billingham, Sussex, was awarded the first with splendid fruits.

Cox's Orange Pippin.—There were twenty exhibitors in the class for this, the most popular of all dessert Apples. Mr. G. Woodward was placed first for superb examples; they were not large, but of good form and bright colour. Mr. W. P. Bound, gardener to J. Colman, Esq., Gatton Park, Reigate, was second with smaller but brilliantly coloured fruits. The several exhibits varied considerably in colour and size.

D'Arcy Spice (Baddow Pippin).—Mr. Cornelius was the only exhibitor of this Apple, and received the second prize with inferior specimens.

Duke of Devonshire.—Mr. W. Jones, gardener to J. R. Broughton, Esq., Wallington Bridge, Carshalton, was first of the five exhibitors here with fruits of good average size. Mr. R. Chamberlain, gardener to F. M. L. nergan, Esq., Cressingham Park, Reading, was placed second with smaller but more shapely and brighter examples.

Egremont Russet.—Mr. R. M. Whiting was a most decided first of the three competitors; his fruits were excellent. Mr. Chas. Earl, gardener to D. E. d'Aigdor Goldsmid, Esq., Somerhill, Tonbridge, was a good second.

Fearn's Pippin.—The first prize set of this variety shown by Mr. W. T. Stowers was grand; the fruits were large and exceptionally brilliant in colour. Mr. W. H. Bannister also showed superb fruits for second place. There were eleven competitors in the class.

Gascoyne's Scarlet Seedling.—The exhibits of this were subject to similar restrictions as with Blenheim Orange. There were a dozen dishes in this class, and the fruits ran very even in quality. Mr. W. T. Stowers was first with average sized clean fruits of the richest colour. Mr. T. Clinch, Denaway, Key Street, Sittingbourne, was a really creditable second. The fruits had a most attractive bloom.

Golden Reinette.—Mr. W. Jones was placed first of the three competitors with shapely well-coloured fruits. Mr. W. Farr, gardener to A. Pears, Esq., Spring Grove, Isleworth, was second with smaller examples.

Groenestein.—There were only two dishes of this Apple. Mr. A. Maxim, gardener to Col. Horace Walpole, Heckfield Place, Wincfield, was first with perfect specimens. Mr. W. E. Humphreys, gardener to A. H. Smee, Esq., The Grange, Hackbridge, Surrey, was second.

James Grieve.—Mr. C. Ross was easily first with clean, even, nicely coloured fruits. Mr. Chas. Earl was second. Mr. J. Day, of Galloway, N.B., showed fine fruits that had got bruised in transit.

King of the Pippins.—This is always a favourite class, and on this occasion there were thirteen competitors. Mr. C. W. Baynes, gardener to Mrs. Walter Scott, Ryedale, Weybridge, was first with typical fruits of beautiful colour. Mr. T. Neale was second with excellent fruits. The dishes varied considerably in size, shape, and colour.

King of Tompkin's County.—This Apple, as shown by several exhibitors, was not suitable for dessert purposes. Mr. J. Treadwell staged grandly coloured fruits of small size for the variety. Mr. S. Osborn, gardener to the Duke of Fife, East Sheen Lodge, was placed second. There were eight contestants in this class.

Lord Burghley.—There were seven entries in this class, and Mr. A. Maxim was first with perfect examples of the variety. Mr. B. Potter was a creditable second.

Mannington's Pippin.—Eleven growers brought dishes of this Apple. The premier place was secured by Mr. G. Woodward with a beautiful set of fruits. Mr. W. Farr was second with rather smaller, but clean and excellent fruits.

Margil.—Mr. G. Woodward was placed in the front in this class with beautifully coloured fruits of perfect form. Mr. W. Jones was second with smaller fruits of good form.

Mother (American).—Six competed for the two prizes in this class. The first prize was secured by Mr. A. Smith, gardener to the Lady Superior Madame Stuart, The Convent, Roehampton, who showed in grand style. The second position was assigned to Mr. A. Kemp, gardener to C. R. S. Dickens, Esq., Coolhurst, Horsham.

Ribston Pippin.—Twenty-one growers came forward with this fine old Apple, and some handsome examples were staged. Mr. W. T. Stowers was placed first with large, clean and finely coloured fruits; Mr. T. H. Slade, gardener to Lord Poltimore, Poltimore Park, Exeter, was an excellent second; his fruits were splendidly coloured.

Rosemary Russet.—Mr. R. Chamberlain took precedence here with handsome fruits; Mr. R. M. Whiting was second. There were four competitors.

Ross Nonpareil.—Mr. G. H. Sage, gardener to Marquis Camden, Bayham Abbey, Lamberhurst, was the only exhibitor, and received the premier award for capital examples.

Scarlet Nonpareil.—Mr. J. Hudson went ahead of the remaining three exhibitors with large, perfectly shaped fruits. Mr. G. Woodward was second with much smaller examples.

Sturmer Pippin.—J. Claude Daubuz, Esq., Killiow, Truro, was placed in the premier position with well coloured examples of good size. Mr. W. H. Stowers was second with smaller, clean fruit. There were eight competitors.

Washington.—Seven competed in this class, and Mr. G. Woodward proved to be an easy first with superb fruits. Mr. G. Grigg was second with excellent fruits that were slightly lacking in colour.

Winter Quarrenden.—The prizes in this and the succeeding classes were presented by Messrs. J. R. Pearson & Sons, Lowdham, Notts. The first was open only to exhibitors living in Cardigan, Radnor, Shropshire, Stafford, Warwick, Northampton, Bedford, Cambridge, Essex, or counties further north. There was not a single exhibitor in this class. There was a second section open only to exhibitors residing south of the counties enumerated in the preceding paragraph. Mr. F. W. Thomas was the only exhibitor, and received the second prize for fruits of good size, very dark colour, but slightly defective.

Worcester Pearmain.—A score of growers brought examples of this handsome Apple. Mr. W. Davies was placed first with fruits perfect in every respect. Mr. W. T. Stowers was second with fruits equal in size but less intense in colour.

Any other variety.—Each exhibitor was allowed to enter one variety only in this class. Of the twenty-five exhibitors who contested, Mr. G. Woodward was easily first with magnificent examples of Mabbot's Pearmain. Mr. W. H. Godden, gardener to F. W. Buxton, Esq., Pishiobury, Sawbridgeworth, was second with Reinette du Canada in grand form.

Cooking Apples.

Alfriston.—Mr. G. Woodward was first with grand fruits; they were large, clean, and of excellent shape. Mr. A. Smith was second with examples of the first size, but greener than those that took premier place. There were five exhibitors.

Beauty of Kent.—Three growers only brought this Apple, and Mr. G. Woodward upheld his reputation by staging superb examples. Mr. T. Neale was a very creditable second.

Belle de Pontoise.—Mr. G. Woodward was again to the fore with large, handsomely formed fruits. Mr. A. Maxim, with clean but much smaller specimens, was placed second.

Bismarck.—Eleven growers exhibited this attractive looking Apple, and Mr. G. Woodward maintained his position with as fine a dish as one could wish to see. Mr. A. Smith was second with fruits of good form, but lacking colour.

Blenheim Orange.—Large fruits were requisite in this class, and only two growers came forward. Mr. T. Neale was placed first with even, clean, well-coloured fruits. Mr. W. H. Godden was an exceptionally close second.

Bramley's Seedling.—The three prizes in this class were presented by Mr. H. Merryweather, Southwell. Six competed in the class for this excellent late Apple. Mr. R. M. Whiting showed grand examples with considerable colour, and was placed first. Mr. G. Woodward was second with fine fruits, and Mr. W. T. Stowers was third.

Cellini.—Mr. T. H. Slade was deservedly placed first with large, shapely, and brilliantly coloured Apples. Mr. H. Ridden, gardener to G. W. Bird, Esq., Manor House, West Wickham, was second with handsome fruits that lacked colour. There were eight competitors in this class.

Cox's Pomona.—A baker's dozen of growers showed in this class, and Mr. W. T. Stowers was an easy first with grand examples. Mr. A. Maxim was a most creditable second. The fruits of this variety varied considerably both in size and colour.

Dumelow's Seedling (Wellington and Normanton Wonder).—Mr. A. Smith was first of the ten who staged here with fruits of the largest size, clean, and shapely. Mr. G. Grigg was second with smaller specimens having a nice colour.

Emperor Alexander.—Mr. G. Woodward was invincible with this variety, showing perfect fruits. Mr. W. T. Stowers was second, also with fine specimens. There were nine exhibitors in this class.

Gascoyne's Scarlet Seedling.—Large fruits were requisite in this class. Ten growers contested for the prizes, and Mr. W. T. Stowers secured the position of honour. His fruits were large and beautifully coloured. Mr. Cornelius was second with a handsome but less even set.

Golden Noble.—Mr. R. Potter showed remarkably fine fruits of this handsome Apple, and received the premier award. Mr. G. Woodward was second with splendidly shaped fruits that had not the rich golden colour of the first prize dish. There were ten exhibitors in this class.

Golden Spire.—Three growers contributed this Apple, and Mr. G. Woodward went to the fore with large, well-formed fruits. Mr. R. M. Whiting was second with smaller, shapely examples, having a bright flush of red.

Grenadier.—Mr. G. Woodward was decidedly first in this class with large clean fruits. Mr. W. Davies was second with well coloured but slightly spotted specimens. There were five competitors.

Hormead Pearmain.—Five growers showed this variety. Mr. R. M. Whiting was first with perfect specimens, and Mr. J. Rich second with rather smaller but very clean examples.

Lane's Prince Albert.—A dozen exhibitors staged this popular Apple, and many excellent fruits were shown. Mr. C. Ross was first with grand specimens having a beautiful colour. Mr. W. T. Stowers was second with green and more angular fruits.

Lord Derby.—Mr. W. T. Stowers was placed first of the twelve who exhibited this Apple; the fruits were large and of perfect form. Mr. G. Woodward was second, also with grand but slightly smaller fruits.

Lord Suffield.—Eleven growers contested for the prizes in this class, and the chief award was annexed by Mr. G. Woodward, who staged perfect examples. Mr. W. T. Stowers was second with slightly greener examples of good form and size.

Mère de Ménage.—Only six staged in this class, and Mr. G. Woodward was first with perfectly coloured fruits of rather above medium size. Mr. W. T. Stowers was second with fruits of similar size, but less shapely and not quite so well coloured.

Newton Wonder.—The two classes for this variety were subject to the same conditions as those for Winter Quarrenden, and the prizes were again presented by Messrs. J. R. Pearson & Sons. There were only two entries, and H. H. Hurnard, Esq., was placed first with even fruits of good colour. Mr. W. H. Divers was second with a rather light dish.

Newton Wonder.—Twelve growers contributed examples in this class, and many excellent fruits were staged. Mr. F. W. Thomas was first with fruits of average size and beautiful colour. Mr. J. Hudson was second with larger but more uneven examples. Mr. G. Woodward was a very close third.

Sutton, gardener to Earl Stanhope, Chevening Park, Sevenoaks, was second with clean but much smaller specimens.

The Queen.—This was a very strong class, and there were thirteen exhibitors. Mr. G. Woodward was first with large even fruits slightly lacking in colour. Mr. R. C. Sanders was second with smaller fruits of much more brilliant colour.

Tower of Glamis.—Seven growers competed for the prizes offered for this Apple. Mr. G. Woodward was first for large, handsome, green fruits. Mr. C. Sutton was a most creditable second.

Twenty Ounce.—Mr. G. Woodward was the only exhibitor of this variety, and was adjudged the premier prize. The fruits were large and very handsome.

Waltham Abbey Seedling.—Mr. G. Woodward was again first in this class with fruits of the largest size and of good shape. Mr. T. Clinch was second with rather smaller fruits that lacked the finish of the first prize set.

Warner's King.—This was one of the largest classes in the show there being about a dozen and a half of dishes. Mr. W. T. Stowers was



FIG. 88.—COLLECTIONS OF CHOICE FRUITS.

PRIZEWINNERS:—MESSRS. J. H. GOODACRE, G. MULLINS, AND J. MCINDOE.

Peasgood's Nonesuch.—Mr. G. Woodward showed superb specimens in this class and was placed first; they were large, of perfect shape, and well coloured. Mr. W. T. Stowers was second with more richly coloured fruits. There were eleven exhibitors.

Potts' Seedling.—Eight growers came forward with this valuable Apple, and Mr. R. M. Whiting went ahead with beautiful fruits. Mr. G. Woodward was second with slightly smaller and greener fruits.

Royal Jubilee.—The premier award in this class went to Mr. C. Ross, who exhibited in grand form. Mr. G. Woodward was an excellent second. There were eight exhibitors, all of whom staged creditably.

Sandringham.—Half a dozen exhibitors faced the judges here, and Mr. A. Smith was placed first. His fruits were of good size and finely coloured. Mr. G. Woodward, with much greener fruits, was accorded the second position.

Stirling Castle.—Mr. G. Woodward secured the premier award with even clean examples. Mr. R. M. Whiting followed very closely. Both showed grand specimens.

Stone's (Loddington Seedling).—Mr. G. Woodward proved an easy first with magnificent fruits of large size and well coloured. Mr. C.

first with magnificent fruits, that were very solid and heavy. Mr. W. Davies was second, also with splendid specimens.

Any other variety.—Each exhibitor was allowed to enter one variety only in this class. There were sixteen exhibitors, and Mr. G. Woodward was first with perfect examples of Belle Dubois. Mr. J. H. Goodacre was placed second with fruits that strongly resembled orchard house grown examples of King of Tompkin's County.

Dessert Pears.

Beurré Baltet Père.—Mr. G. Woodward was the only contributor of this variety, and with handsome specimens was adjudged the premier prize.

Beurré Bosc.—Nine growers brought fruits for competition in this class, and the leading position was secured by Mr. J. Friend, gardener to the Hon. P. C. Glyn, Rooksnest, Godstone, who showed remarkably even and clean fruits. Mr. J. Webb, gardener to H. Padwick, Esq., Manor House, Horsham, was a creditable second.

Beurré d'Anjou.—Mr. G. H. Sage went ahead here with large, clean, but somewhat green examples. The second prize was annexed by Mr.

R. Chamberlain, who showed clean slightly coloured fruits of smaller size. There were four competitors.

Beurré Diel.—Nine dishes were placed before the judges in the class for this well-known Pear. Mr. Allan, Gunton, was first with splendidly typical fruits. Mr. T. Turton was a capital second with rather smaller specimens of a lighter colour.

Beurré Dumont.—Mr. G. Woodward came to the fore here with shapely examples, having a pleasantly coloured flush on the sun side of the fruit. Mr. J. Treadwell was second with specimens of good size, but lacking in cleanliness. There were three competitors.

Beurré Fouquieray.—A quarter of a dozen growers sent in this class, and pride of place was given to Mr. G. H. Sage, who showed in splendid form. Mr. F. W. Thomas was an excellent second.

Beurré Hardy.—Mr. G. Woodward was first in this class with beautiful fruits. Mr. W. T. Stowers was placed second with specimens of almost equally good quality. There were eight dishes in competition.

Beurré Mortillet.—Two growers contributed in this class, but the premier prize only was awarded. This went to Mr. F. W. Thomas for fruits rather over medium size, clean and of bright colour.

Beurré Superfin.—Eleven exhibitors competed for the prizes in the class for this excellent Pear, and Mr. F. W. Thomas was an easy first with clean, beautifully coloured fruits of typical shape. Mr. W. T. Stowers was second with green specimens.

Comte de Lamy.—Mr. C. Harris, gardener to O. A. Smith, Esq., Hammerwood, East Grinstead, was first with large fruits (for the variety) of good form and quite clean. Mr. W. Allan was second with rather smaller fruits having much more colour. There were nine competitors.

Conference.—Eight dishes of this Pear were staged, and Mr. G. Woodward was placed in the front with green fruits of excellent size. Mr. J. W. Barks, gardener to H. Partridge, Esq., Castle Hill, Bletchingley, was a most creditable second.

Doyenné du Comice.—This most delicious Pear was represented by eleven dishes, all of which were of good quality. Mr. G. Woodward was first with perfectly formed fruits of large size, and very richly coloured. Mr. W. Harrison was second with a dish of almost equally excellent specimens.

Duchesse de Bordeaux.—Mr. E. Coleman was placed before Mr. G. H. Sage in this class. The winner's fruit were of good size, very solid, and green almost obscured by the russet. Mr. Sage's examples were smaller, and had a distinct bronzy tone. These were the only exhibitors.

Durondeau.—This handsome variety was represented in eleven dishes, of which more than half were of fine quality. Mr. T. Turton was first with fruits perfect in all respects. Mr. G. Woodward was an excellent second with grand specimens.

Emile d'Heyst.—The fruits of this finely flavoured Pear that were shown by Mr. G. Woodward were of quite exceptional excellence; they had size and form, with refinement. Mr. W. Allan was second with large fruits that had not the finish of the Kentish examples. There were five exhibitors.

Fondante d'Automne.—There were ten dishes of this most excellent Pear. Mr. W. Jones was first with clean, even fruits of typical form and size. Mr. W. Allan was second with rounder specimens of good colour.

Fondante de Thirriott.—Mr. G. Woodward was an easy first here with some of the finest fruits of the variety we have seen. Mr. G. H. Sage was second with less refined examples. There were three exhibitors.

Glou Morceau.—Half a score was the number of dishes in this class, and Mr. G. Woodward added another notch to his fine record. The fruits were spotless, and of good shape and pleasing colour. Mr. W. Jones was a capital second with clean examples that were almost quite green.

Josephine de Malines.—A similar array was exhibited in this class, and again Mr. G. Woodward was ahead. The fruits were above average size, clean, and of excellent shape. Mr. C. Ross was second with almost equally creditable specimens.

Louise Bonne de Jersey.—This was one of the strongest fights in the Pear section, there being no less than nineteen exhibits. Mr. T. H. Slade was first with large, shapely fruits that were slightly lacking in colour. Mr. W. Farr was a splendid second with handsome fruits. Excellent dishes were conspicuous in this class.

Marie Benoist.—Five growers faced the adjudicators in this class, and Mr. W. H. Godden secured the leading place with clean typical fruits. Mr. G. Woodward was second with a fine exhibit of clean green specimens.

Marie Louise.—Mr. W. Allan secured the lead amongst the fourteen exhibitors of this popular Pear with even clean fruits of large size. Mr. R. Morse, Babington, Bath, was second in excellent form. Mr. W. Camm was highly commended for splendid fruits.

Marguerite Marillat.—Mr. G. Woodward was in great form in this class. His fruits were large, well high speckless, and of beautiful colour. Mr. F. W. Thomas was an excellent second. There were six competitors.

Nouvelle Fulvie.—This Pear was neither largely nor particularly well shown. Mr. J. Vert, gardener to Lord Braybrooke, Audley End, Saffron

Walden, was placed first, and Mr. G. Woodward second. Both staged rather small fruits.

Pitmaston Duchess.—This monster variety was shown by eighteen growers, of whom Mr. G. Grigg was first with superb specimens; they were large and quite clean. Mr. G. Woodward was a dangerous second with rather smaller fruits.

Seckle.—Mr. C. Ross was deservedly placed first in this class with typical fruits of excellent colour. Mr. A. Maxim was second with good but rather duller fruits. There were seven contestants for the two prizes.

Souvenir du Congrès.—Mr. J. Rich was well ahead of the remaining half-dozen exhibitors in this class. The fruits were clean and very richly coloured. Mr. F. W. Thomas was second with rather smaller but clean and bright examples.

Thompson's.—Five growers came forward with this deliciously flavoured Pear. Mr. W. Allan was easily first with exceptionally large fruits. Mr. A. R. Allan was second with smaller, riper fruits. This was not quite the only occasion on which a clever son had to play second fiddle to a clever father.

Triomphe de Vienne.—Mr. T. H. Slade showed superb examples of this Pear, and received the premier award; they were perfect in shape and colour. Mr. R. C. Sanders was second with smaller but still very creditable fruit. There were eight exhibitors.

Winter Nelis.—Ten growers were represented in this class, and Mr. J. Webb was well to the fore with fruits of large size (for the variety) and good colour. Mr. G. Woodward was second with rather less refined examples.

Any other variety.—Each exhibitor was allowed to enter one variety only in this class, and twenty-seven dishes were shown. Mr. G. Woodward was placed first with ripe fruits of Madame Treyve; they were very clean and shapely. Mr. C. Sutton was second with Magnate in remarkably good form.

OPEN TO NURSERYMEN ONLY.

There were four classes allotted to nurserymen only, and in the three devoted to hardy fruits grown entirely out of doors an exhibitor could only compete in one of the classes. In the premier class for 48 feet run of 6 feet tabling there was one entry; it would be impossible to conceive a grander display of trade fruits than those staged on this occasion.

Collections of Outdoor Fruits.

The gold medal was won handsomely by Messrs. G. Bunyard & Co., Maidstone, who probably surpassed himself on this occasion. The whole of the fruit was displayed to the best advantage. In the centre rose a pyramid of dessert Apples raised in tiers, all of them brightly coloured, while a few Adiantums gave grace to the exhibit. The varieties so staged were Lady Sudeley, Duchess' Favourite, Allington Pippin, Williams' Favourite, Scarlet Pearmain, Cox's Orange Pippin, while a mound of the Old Sops in Wine crowned the whole, the stand being hidden with ornamental Crabs and Smilax foliage. Small mounds were built at either end of the exhibit. Amongst the Apples were grand baskets of Duchess of Oldenburg, Thomas Rivers, James Grieve, Transparent de Croncelles, Beitingheimer (a grand colour), Gascoyne's Scarlet, The Queen, Cellini (a wonderful colour), Lord Derby, Warner's King, Cox's Pomona, Gravenstein, Twenty Ounce, Swedish Reinette, Cardinal, Peasgood's Nonesuch (of grand colour and finish), Wealthy (in superb condition), Washington, Calville Rouge Précoce, Gold Medal, Worcester Pearmain, and Stone's. The Pears were equally good, many being of grand colour, *Beurré Mortillet* being exquisite in this respect, King Edward arrested attention for its large size and wonderful colour, *Triomphe de Vienne*, *Beurré Diel*, Dr. Jules Guyot (grand), *Conference*, Madame Treyve, while Marguerite Marillat was represented by a superb basket, *Beurré Jean Van Geert*, Lad (wonderful colour), Grosse Calebasse (of gigantic proportions), with *Pitmaston Duchess* and *Doyenné Boussoch* were most striking. Some of the best dishes of Plums were Poupard's Gage, Pond's Seedling, La Delicieuse, Cox's Emperor, and Jefferson's, while Damsons were represented by several varieties; nor were other fruits neglected, for the Crabs in variety were striking, and collections of Nuts, Grapes, and Medlars completed the display, which for quality and staging has perhaps never been surpassed.

For a table of 32 feet run of 6 feet tabling there were five entries, and although necessarily smaller in size than the preceding class the exhibits were certainly all that could be desired. Mr. J. Basham, Fair Oak Nurseries, Bassaleg, Newport, Mon., was first, winning the Hogg Memorial medal with a fine display of fruit beautifully arranged. The centre consisted of a rather elaborate piece of furniture, on which the dishes of Apples were arranged in tiers with a few pots of *Panicum variegatum* for decoration, the rest were staged in baskets and dishes, a few foliage plants being used to good effect. There was hardly a weak part in the exhibit, and many of the Apples were simply grand. Allington Pippin was in fine form, as were also Emperor Alexander, Frogmore Prolific, The Queen, and Duchess of Oldenburg; Jolly Miller was excellent in colour, Lord Derby was exceedingly large, while King of the Pippins were large and of good colour. Other notable varieties were Cox's Orange Pippin, American Mother, Ecklinville Seedling, Gravenstein, and Worcester Pearmain. The best specimens of Pears were Marguerite Marillat (grand in size and colour), *Pitmaston*

Duchess, Beurré d'Amanlis, Doyenné du Comice, Uvedale's St. Germain, Conference (excellent) and Doyenné Boussoch. The Plums included good dishes of Goliath, Black Diamond, Cox's Emperor, and Pond's Seedling; while outdoor Grapes, Crabs, and Figs all contributed in making what was a grand exhibit.

Messrs. J. Cheal & Sons, Crawley, were second with a display of Apples and Pears in baskets, with collections of Plums, Crabs, and Nectarines in dishes and punnets. The centre was relieved with a few foliage plants. Amongst Apples, Col. Vaughan, Old Nonesuch, Jolly Miller, Cowan's Victoria, and Nanny were remarkable for their colour. Some of the other good dishes were Brownlee's Russet, Warner's King, The Queen, Peasgood's Nonesuch, Paroquet (in good form and of excellent colour), Bismarck, Worcester Pearmain, Emily Childs, and Ribston Pippin. Fine baskets of Pears were Duchesse de Nemours, General Todtleben, and Pitmaston Duchess, while good dishes of Flemish Beauty, Doyenné du Comice, Catillac, and Gratioli were staged. Plums were staged in punnets, and included amongst others Pond's Seedling, Autumn Compôte, Sultan, Jefferson, Cox's Emperor, Grand Duke, and Monarch. While Messrs. J. Laing & Sons were third with an artistic display. The collection included good dishes of Peasgood's Nonesuch, The Queen, Bismarck, Lord Grosvenor, Emperor Alexander, Potts' Seedling, Washington, and Warner's King Apples. The best Pears were General Todtleben, Pitmaston Duchess, Catillac, Souvenir du Congrès, and Grosse Calabasse. Plums and Crabs were well represented. The little bunches of *Cratægus Lelandi* distributed about the table were most effective.

In the smallest class for exhibits of 16 feet run of 6 feet tabling two growers exhibited. Here Messrs. J. Peed & Son, Norwood, were first for a grand exhibit. The Apples and Pears were staged in baskets and plates. Although the fruits did not display the colouring of many of the exhibits, at the same time the quality was good and some striking dishes were to be seen, such as Colonel Vaughan, Warner's King, Herefordshire Costard, Wealthy, Cox's Orange Pippin, Bismarck, and Peasgood's Nonesuch; while capital baskets of Durondeau, Le Lectier, Souvenir du Congrès, and Glou Morceau were the best Pears. Messrs. G. Cooling and Sons, Bath, made a good second with an exhibit full of colour, the Apples being perhaps the best feature. The best dishes were Peasgood's Nonesuch, The Queen, Frogmore Prolific, Bismarck, Emperor Alexander, Lord Derby, Potts' Seedling, and Newton Wonder. The chief Pears were Souvenir du Congrès, Pitmaston Duchess, Doyenné Boussoch, Marie Louise d'Uccle, and Louise Bonne de Jersey. A good collection of Plums were also included; Crabs, Peaches, and Nuts were staged. The latter included a fine variety named Cooling's Seedling Cob.

Orchard House Fruit and Trees.

The class for orchard house fruit and trees is one that is always sought for at the Palace most keenly, and on this occasion the visitors were not disappointed, for the display was magnificent, and should prove of the greatest value to those persons contemplating starting an orchard house. Although Messrs. T. Rivers & Son, Sawbridgeworth, were the only exhibitors, the display was worthy of the well known firm. The trees in pots included well grown and fruited plants of Apples, Pears, Plums, Figs, and Crabs, while the lower part of the table was embellished with baskets and boxes of Apples, Pears, Grapes,

Peaches, and Plums. The trees in pots attracted a great amount of attention; the Apples included grand samples of Emperor Alexander, Cox's Orange Pippin, and Prince Edward. In the Pears Louise Bonne de Jersey, Conference, and Red October were noteworthy, while the Plums President, Primate, and Grand Duke were loaded with fruits. The Peaches were Golden Eagle, Robert Peach, and Lady Palmerston. The baskets of fruit contained grand samples of Ribston Pippin, Peasgood Nonesuch, and Cox's Orange Pippin, the best Pears being Beurré Lebrun, Beurré Hardy, Louise Bonne de Jersey, and Pitmaston Duchess, while the Plums and Peaches were equally good.

OPEN TO MARKET GROWERS ONLY.

This division is apparently gaining in popularity, but far greater efforts ought to be made by the market men, who should, without much trouble to themselves, make a gigantic show, and we are persuaded that better produce can yet be sent from other centres. Why should the competition be confined to so few counties, and why do we not see more interest displayed by the growers in the home district?

Grapes.

In the class for a baby basket of Black Hamburg, weighing not less than 12 lbs., there were three entries; the exhibits could not be classed as level with any display to be seen outside a salesman's office in Covent Garden, for only one showed any idea of the proper packing required for the market. The first prize was awarded to Mr. W. Iggulden, Lock's Lane Nursery, Frome, who had a good basket of Black Hamburg well packed but much too crowded, there being nine bunches in a space usually occupied by six in this class of basket; the berries were good and the basket had travelled well. Mr. W. Poupert, Marsh Farm, Twickenham, was second with a typical market basket, but the bunches for some obscure reason had not been secured.

For a baby basket of any white Grapes, under the same conditions as the last class, there were four entries, and a splendid show they made. The first prize was awarded to Messrs. Batho, Nether Street Nurseries, Finchley, who staged a grand basket of Canon Hall Muscat, which were splendid in bunch and berry—a truly grand exhibit. The second prize fell to Mr. W. Iggulden, who had a well-packed basket of Muscat of Alexandria, the colour being superb; but they were a little too crowded for the London markets.

In the class for Grapes, any variety, in any other package than a baby basket for market, the schedule stipulations read somewhat peculiarly to the average market grower. It was stated that no prize to be awarded unless the judges consider the box, basket, or other receptacle superior for transit by rail to baby baskets or flats. Apparently this remarkable clause did not frighten the men who face Covent Garden Market each week, for there were five entries, all packed in handle baskets—surely the orthodox way too. Mr. J. Gore, Polegate, Sussex, was placed first for a grand basket of Gros Colman, perfect in berry and bunch without the slightest damage in transit, worthily followed by Mr. W. Green, Harold Wood, Essex, who had a grand basket of Muscat of Alexandria.

Apples.

For four varieties of cooking Apples about 42 lbs. nett each, in baskets or boxes, with the necessary stipulation, which, by-the-by, was



FIG. 89.—APPLE BISMARCK (BUNYARD).

not observed at the last show, that any boxes or baskets piled up above the edge or rim would be disqualified, evidently made a few of the exhibitors a little less ambitious, or shall we say more careful; but no fault in this respect could be found with the five exhibitors who staged, the first prize going to Mr. W. Poupart, who won handsomely with four varieties staged in the orthodox sieves. The samples were grand, and well packed, the varieties being Warner's King, Lane's Prince Albert, Bismarck, and Peasgood's Nonesuch; while Mr. G. Tehbutt, Mogden House, Isleworth, was second with good samples of Yorkshire Beauty, Lady Henniker, Stirling Castle, and Wellington. All the exhibitors in this class used the market sieve but one, who staged in flat, oblong baskets.

A similar class for dessert varieties of 20 lbs nett brought out four contestants. Here again Mr. W. Poupart was invincible, packing with wood wool and blue paper, as did all the other exhibitors. The varieties employed were Ribston Pippin, Rosemary Russet in grand form, King of the Pippins, and Cox's Orange Pippin. Mr. Geo. Tehbutt followed with smaller, though well packed samples; his best were Worcester Pearmain and King of the Pippins.

A curious class was that for two varieties of cooking Apples, about 20 lbs. nett, in boxes or baskets, for such produce is rarely sent in such small quantities. Here the exhibitors save one staged in baskets, the exception being Mr. John Basham, Bassaleg, Newport Mon., who had shallow boxes; the fruits were packed in wood wool, and looked well. The varieties were Bismarck and The Queen. Mr. G. Tehbutt was second, staging Stirling Castle and Lady Henniker in half sieves, with wood wool as packing. One good pair in this class were left out, apparently because the exhibitor had used full sieves for 20 lbs. of fruit.

A similar class for two varieties of dessert Apples, which was much more in accord with market customs, but brought out only three exhibitors, the first prize going to Messrs. Campbell & Gettling, Glewston Fruit Plantation, Ross, Hereford, for two somewhat dull-looking baskets of Cox's Orange Pippin and Ribston Pippin; Mr. W. Poupart staged Wealthy and Cox's Orange Pippin in grand style for second place. He must have run the other exhibitor hard, and in the market would have undoubtedly surpassed him.

The class for one variety of cooking Apples, about 42 lbs. nett, was evidently a popular one, for there were seven entries, the exhibitors using boxes, sieves, and flat baskets, but the honours lay entirely with the boxes, Messrs. Campbell & Gettling being a grand first for a box of Peasgood's Nonesuch packed with wood wool; Mr. A. J. Adcock, Felixstowe Road, Ipswich, was second with the same variety, which were almost as good, but not so well packed for market purposes.

The dessert class was represented by a box or basket of about 20 lbs. Here the quality was decidedly above the average, and there were six exhibitors. Mr. W. Poupart proved the victor with a grand half-sieve of Cox's Orange Pippin; Mr. A. Wyatt, Hatton, Middlesex, followed with the same variety. In this class Messrs. Campbell and Gettling had a grand box of well coloured Worcester Pearmain.

The class for Apples, about 42 lbs. of any variety, to illustrate any improved form of package for market, with the conditions that the judges awarded no prizes unless they considered the receptacle superior to those in ordinary, brought one exhibit from Mr. John Basham, who used a flat basket and wood wool for packing. It was extremely doubtful where the improved form of packing came in.

Again we have a class for Apples of the same weight as the preceding class, showing any improved system of packing, evidently not necessarily for market. There were only two entries, one packed in a flat basket and the other in a market sieve. Here again the packing was only what one expects to see in market any day for first-class produce. Mr. John Basham was first for a good basket of Peasgood's Nonesuch, and Mr. W. Poupart followed with the same variety in a sieve, using paper and wood wool.

Pears.

For two varieties of Pears, in two packages of about 20 lbs. each, there were three exhibitors, Mr. A. Wyatt leading with good half-sieves of Souvenir du Congrès and Pitmaston Duchess, both being well packed in pink papers. Mr. W. Poupart must have run the first exhibitor very closely, for his baskets were quite equal, though lacking in elaborate packing.

A class for Pears in one package containing from twenty-four to forty-eight fruits, according to size, of one variety, brought out a capital exhibit of five, four of which were packed in boxes. Here Mr. W. Poupart won handsomely with a shallow box containing a single layer of Louise Bonne de Jersey of good size and beautifully coloured. Mr. A. Wyatt, Hatton, Middlesex, came second with a fine box of Pitmaston Duchess packed in pink paper.

Collection of Apples and Pears.

Perhaps the toughest class for the market men was that for a collection of twelve varieties of Apples and six of Pears, distinct, eighteen fruits of each, to be laid flat on the table without dishes or baskets, only Vine or similar leaves allowed for decoration, but under such peculiar conditions the growers made the most of it. Surely there is no necessity to stage them under such conditions; especially in these days, when we are constantly drumming it into the market men that they do not display their fruit in the most attractive manner. The class, however, brought out four competitors, and Mr. W. Poupart was well to the fore, using Oak leaves for decorative purposes. The exhibit

was excellent throughout. The Apples were Cox's Pomona, Lane's Prince Albert, Lord Derby, Alfriston, Peasgood's Nonesuch (a grand colour), Warner's King, Bismarck, Potts' Seedling (a grand sample), Cox's Orange Pippin, Brownlee's Russet, Ribston Pippin, and a grand lot of Wealthy. The Pears were equally good, and the varieties were Doyenné du Comice, Conference, Beurré Superfin, Pitmaston Duchess, Durondeau, and well coloured Louise Bonne de Jersey. Messrs. W. J. Lohjoit & Son, Heston Farm, Hounslow, were a good second, staging Potts' Seedling, The Queen, Bismarck, Warner's King, Stirling Castle, and Duchess' Favourite in Apples, while the Pears were well represented by Souvenir du Congrès, Pitmaston Duchess, Durondeau, and Conference.

Plums and Peaches.

The Plum section was represented by two classes, the first for a basket or box of about 28 lbs. capacity, any one variety, in which there were four entries, all the exhibitors staging that well-known variety Monarch, Mr. W. Poupart taking the lead with a superb sample; the fruits were large and the bloom perfect. Mr. A. Wright was second with a good sample, but they lacked the bloom of the winner's, which had evidently been protected by a wall.

The other was for twenty-four to forty-eight fruits of any choice dessert variety packed in one package for market. Here we had four entries, the first prize going to Mr. J. Gore, Polegate, Sussex, for a beautiful box of Jefferson, large and well coloured, the second place being awarded to Mr. W. Iggulden for the same variety, but there was a large gap between the two boxes.

Peaches were represented by a class for twenty-four fruits of one or more varieties packed in a suitable box. This class proved most interesting, for although there were only five entries, Mr. J. Gore, who was awarded the first prize, evidently won on his superior packing, and not on the fruits. Each Peach was first placed in tissue paper, then a wrapping of wadding, and finally packed with wood wool. Messrs. W. Poupart and T. Bones, Chessington, were placed equal seconds, the former winning on his splendid packing, and the latter with the best Peaches in the class. All the winners staged Sea Eagle.

Tomatoes.

For a box or basket of Tomatoes of about 12 lbs. there were eight contestants. Mr. Chas. Moon, Chessington Court Nurseries, Surbiton, was placed first with a good handle basket of Comet, followed by Mr. W. Poupart, who had a strike of really fine fruit.

NON-COMPETITIVE EXHIBITS.

Mr. W. Wells, Earlswood, arranged a square table of Chrysanthemums, including several of the best of the early flowering varieties. Of these we may mention Lady Fitzwygram, Madame E. Lefort, Market White, Harvest Home, Madame Liger Ligneau, Mitchell White, Fiberta, and Sam Barlow. Messrs. J. Peed & Son, West Norwood, were represented by a collection of blooms of tuberous-rooted Begonias. Single and double varieties were included, and considering that they were all cut from plants growing in the open ground they were of excellent quality. The colours were very varied, bright, and clear.

Hardy flowers were extensively exhibited by Mr. B. Ladhams, Shirley, Southampton. There was a pleasing variety, and many flowers of fine quality. Amongst the most conspicuous were Gaillardias, Coreopsis, Michaelmas Daisies, Heleniums, Scabious, Delphiniums, Montbretias, and Phloxes. Mr. Will Tayler, Hampton, sent three boxes of cut Roses, of which The Bride, Maman Cochet, Victor Hugo, Catherine Mermet, Kaiserin Augusta Victoria, Souvenir de Catherine Guillot, and Caroline Testout were particularly meritorious. Mr. Tayler also showed examples of the American hardy black Grape Brandt.

The Horticultural College, Swanley, Kent, sent a representative collection of fruit and also bottled fruits. The latter included Gooseberries, Currants, Plums, and Cherries, and from their condition we should infer they were excellent. The fruits on the tables comprised Pears, Apples, Plums, Nuts, Cherries, and Damsons, but there was nothing of special merit.

Messrs. F. Cant & Co., Braiswick Nursery, Colchester, contributed a most interesting and beautiful collection of Roses. Some of the finest were Killarney, Papa Gontier, Rubens, Marie Van Houtte, Kaiserin Augusta Victoria, Maria Christina Reine d'Espagne, The Bride, Queen Mab, Catherine Mermet, Crimson China, Ethel Brownlow, Ernest Metz, Madame Lambard, and White Maman Cochet. Messrs. W. Clibran and Son, Altrincham, had a unique exhibit in the form of a group of Celcias. The plants were excellently grown, and the strain is admirably varied in colour. The crimson and yellows were particularly meritorious, the plumes being large and very rich.

One of the brightest groups of hardy flowers was that contributed by Messrs. Barr & Sons, Covent Garden. It comprised excellent Michaelmas Daisies, single, Cactus, and Pompon Dahlias, splendid perennial Phloxes, Helianthus rigidus Miss Mellish, Liliams speciosum and auratum ruhro-vittatum, Pentstemons, early flowering Chrysanthemums, Iceland Poppies, Clematis, Tigridias, and Gladioli. Messrs. A. W. Young & Co., Stevenage, had one table devoted to Tomato Young's Eclipse, and another to hardy flowers, amongst which Dahlias, Sweet Peas, Michaelmas Daisies, Phloxes, and Gaillardias were noticeable.

The exhibits exhibited by Mr. Maurice Prichard, Christchurch, Hants, are invariably characterised by excellence of quality. His bunches of *Solidago Shorti*, *Pyrethrum uliginosum*, *Helianthus rigidus* Rev. Wolley Dod, *H. giganteus*, *Eryngium Oliverianum*, *Phygelius capensis*, *Physalis Franchetti*, *Campanula glomerata pallida*, *Helenium striatum*, with *Michaelmas Daisies* and *Phloxes* in variety were grand.

A group of magnificent *Cannas* was contributed by Messrs. H. Cannell & Sons, Swanley and Eynsford, Kent. The splendidly grown plants were carrying spikes of large and brilliantly coloured flowers. A few of the best varieties were *Meteor*, *Philadelphia*, *Florence Vaughan*, *Queen Charlotte*, *Paul Lorenz*, *Robert Christy*, *Auguste Chantin*, *Milne Redhead*, and *M. H. Debrouse*. Mr. J. Russell, Richmond, had a representative collection of *Ivies* in pots. The varieties were numerous and the plants admirably grown.

Messrs. J. Laing & Sons, Forest Hill, occupied an exceptionally large amount of space in several positions. They had a semicircular group of plants, comprising *Grapes* and *Pears* fruiting in pots, *Crataegus pyracantha*, *Irises*, and *Euonymuses*, and other shrubs, with early *Chrysanthemums*. Then, too, a table was filled with miscellaneous foliage plants, such as *Crotons*, *Caladiums*, *Dracaenas*, *Ferns*, and ornamental foliaged *Begonias*. The same firm sent also tuberous-rooted *Begonias* in pots, comprising several very fine varieties of both the single and double sections. *Streptocarpus multiflorus* in variety was excellent, the colours being rich and varied. In addition to all these there was a bay of hardy flowers, including fine *Cactus Dahlias*.

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Tottenham, had hardy flowers of fine quality. *Cactus Dahlias* in bunches made a very bright display. Tall spikes of *Delphiniums* added much to the attractiveness of the exhibit, which included also *Gladioli*, *Phloxes*, *Michaelmas Daisies*, *Helianthus*, and *Liliums*, with a few others. This firm's excellent strain of tuberous-rooted *Begonias* was represented by cut flowers, flowers, and plants in the open ground. There was nothing to choose, so far as quality is concerned, between the singles and doubles.

A beautiful array of *Dahlias* was made by Messrs. J. Cheal & Sons, Lowfield Nursery, Crawley. The *Cactus* section included splendid examples of *Innovation*, *Countess of Lonsdale*, *Emperor*, *Chas. Woodbridge*, *Regulus*, *The Clown*, *Mrs. J. J. Crowe*, *Ruby*, *Major Weston*, *Ajax*, *Zephyr*, and *Britannia*. Of singles the best were *Formosa*, *Polly Eccles*, *Denon*, *Tommy*, *Chas. Parrott*, *alba perfecta*, *Daisy*, *Naomi Tighe*, *Paragon*, and *Victoria*. The *Pompons* comprised *Amber Queen*, *Whisper*, *Neissa*, *Demon*, *Clarissa*, *Jessica*, *Douglas*, *Snowflake*, *Iris*, and *Captain Boyton*. A few bunches of single *Cactus* varieties were also included. Messrs. Cheal made up the front portion of their stand with dishes of *Apples* and *Pears*, and many of the more popular varieties of each were finely shown.

Mr. George Prince, Oxford, contributed a most beautiful collection of *Roses*, grown on the cultivated seedling *Brier*, which it is claimed favours early and late flowering. The flowers were of exceptionally good quality throughout. Some of the best were *The Bride*, *Anna Olivier*, *Madame Hoste*, *Gustave Regis*, *Maman Cochet*, *Muriel Grahame*, *Niphetos*, *Comtesse de Nadaillac*, *Marie Van Houtte*, *Miss Ethel Brownlow*, *Souvenir d'Elise Vaidon*, *Souvenir d'un Ami*, *Souvenir de S. A. Prince*, *La Boule d'Or*, *White Maman Cochet*, and *Rainbow*. Mr. Prince sent also fruits of several of the *Roses*.

Bunches of garden *Roses* from Messrs. G. Cooling & Sons, Bath, were strikingly handsome. We noticed amongst others *The Bride*, *Queen Mab*, *Jean Ducher*, *Gustave Regis*, *Catherine Mermet*, *Anna Olivier*, *Madame Eugène Ressel*, *Marie Van Houtte*, and *Archduke Joseph*.

Messrs. W. Paul & Son, Waltham Cross, showed a handsome table of *Roses*, with grandly flowered plants of *Salvia Ruhm von Stuttgart* in the background. The *Roses* included *Queen Mab*, *Hon. Edith Gifford*, *Marquise de Salisbury*, *Boadicea*, *Camoens*, *Gustave Nabonnand*, *Gross an Teplitz*, *Marie Van Houtte*, *Corallina*, *Echantress*, *Rainbow*, *Perle d'Or*, *L'Innocence*, *Caroline Testout*, *Papa Gontier*, and *Aurora*.

Messrs. J. Veitch & Sons, Ltd., Chelsea, staged a most excellent collection of *Conifers* in pots, including a large number of *Cupressus*, *Taxus*, *Juniperus*, *Thuia*, and *Cedrus*. The first named were especially fine in the condition of the plants and the variety. The same firm sent also a considerable number of trained *Irises*, including admirably grown plants of several of the best species and varieties. This exhibit was a pleasing change from the abundance of fruit and the brilliancy of the flowers. The great Chelsea firm were represented in the fruit section by a large collection of *Apples* and *Pears*. The best of the former were *Tyler's Kernel*, *Cellini*, *Potts' seedling*, *Lord Suffield*, *Cox's Orange Pippin*, *Peasgood's Nonesuch*, *Allington Pippin*, *St. Edmund's Pippin*, *Warner's King*, *Evagil*, *Schoolmaster*, *King Harry*, *Cocle's Pippin*, *Gravenstein*, *Mère de Ménage*, *Jas. Grieve*, *Dutch Codlin*, and *Fearn's Pippin*. The most conspicuous *Pears* were *Beurré Clairgeau*, *Marie Louise d'Uccle*, *Beurré Bilet Père*, *Pitmaston Duchess*, *Beurré Capiaumont*, *Thompson's*, *Brockworth Park*, *Louise Bonne de Jersey*, *Marguerite Marillat*, *Doyenné Boussoch*, *Beurré Le Brun*, *Easter Beurré* and *Fondante d'Automne*. The new *Grape Prince of Wales* was also splendidly shown.

The Royal Agricultural and Horticultural Society of Jersey sent a collection of *Channel Island* fruit, which included *Apples*, *Pears*, *Tomatoes*, and *Melons*. The *Pears* especially were very fine, particularly in size. Some varieties were superior, and others inferior to those

grown at home. Messrs. W. Cutbush & Son, Highgate, sent half a dozen baskets of *Apple Monstrous Incomparable*. It is a very shapely light-coloured variety of large size. In appearance it is far more attractive than in name. Messrs. W. Horne & Sons, Cliffe, Rochester, showed a small exhibit of *Apple Chas. Ross*.

Mr. Jas. Roberts, gardener to Baron Nathaniel de Rothschild, Hohe Warte, Vienna, sent an immense *Pine* named *Bracomorensis*. It would weigh about a dozen pounds, and was of a rich orange red colour. The South-Eastern College, Wye, showed five sets of *Apple Bismarck* to illustrate the effects of various manures; the value of the exhibit was, however, much discounted by the omission to give proportions of nitrogen, phosphate, and potash in the "complete" manure. It was curious to note that the weight of fruit secured from the trees having had "complete" food was less than when the proportion of phosphate had been trebled.



Fruit Forcing.

Cherry House.—Where light, airy, and well-heated lean-to or three-quarters span-roof houses are available, and these face the south, *Cherries* can be had with certainty early in April. The trees may either be in pots or planted out. By the first of these methods the trees can be removed, as soon as the fruit is gathered and the wood sufficiently matured, to a sheltered sunny situation outdoors, and the house is then at liberty for growing *Cucumbers*, *Melons*, or *Tomatoes*, which from an investment point of view are quite as remunerative as the *Cherries*. On the planting-out system finer fruit is had, the growth being trained 9 to 12 inches from the glass, but it is necessary to have the roof-lights movable, and the house can only be used for the *Cherries*.

If it is intended to plant any trees it should be seen to as soon as the leaves commence falling. *Cherries* thrive best in calcareous soils, preferably rather strong for trees under glass, especially when the loam contains a free admixture of calcareous and flinty particles. Turfy loam, with a sixth of old mortar rubbish and a similar proportion of road scrapings, will grow *Cherries* well. If the soil be light add a fourth of clay marl dried and ground fine. Provide a drain of 3 or 4-inch pipes, having due fall and sure outlet. There must also be 9 inches depth of brickbats or rubble for drainage, the roughest at the bottom, with the material diminishing in size upwards to that of road metal, and on this place 3 inches thickness of old mortar rubbish, being careful to have it free from pieces of wood. A depth of 24 inches of border is ample, and 6 feet width will meet the requirements of trees grown under glass. The compost should be placed together firmly. *Early Rivers*, *Governor Wood*, *Black Tartarian*, and *Elton* are excellent varieties, both for size and quality. The lights having been removed they need not be replaced for six or eight weeks, the old surface soil being removed without injury to the roots and fresh compost supplied, that above named answering with the addition of a fourth of well-decayed manure.

Vines.—*Early Vines in Pots.*—For affording ripe *Grapes* in late March or early April, well ripened canes from cut-backs started early in the year are most suitable. They should now be at rest, have had the laterals cut off closely, and the cane shortened to the length required, 6 to 8 feet. The *Vines* do best in a lean-to or three-quarters span-roof house facing the south, and preferably with a pit along the front of 3 or 4 feet depth for holding leaves, there being a pathway at the back, and a trellis for training the growths to at 1 foot distance from the glass. A good start is assured if bottom heat can be provided, a bed of fermenting materials, two parts leaves and one part stable litter, affording a mild lasting heat. Place loose brick pillars, 9 inches square, about 2½ feet apart for the pots to stand on, and so high that the rims of the pots are level with the top of the fermenting bed. The material must be brought up loosely about the pots in the first instance, and not have a temperature of more than 65° to 70° at the commencement.

Vines that have been ripened early, pruned, and had about six weeks' rest may be started at once for supplying fresh, ripe, thin skinned *Grapes* as early in the year as possible, which cannot well be effected before March, and to effect this the earliest varieties, as *White Frontignan*, *Foster's Seedling*, *Black Hamburg*, and *Madresfield Court*, should be chosen. The temperature at starting must not exceed 55° by artificial means, but when the buds show signs of breaking it may gradually be increased to 65°. The canes should be slung in a horizontal position, or lower at their extremities than the base, to induce them to push their buds evenly throughout the length of the canes, syringing them two or three times a day, also the paths and walls. Sufficient water must be given at the roots to keep the soil moderately moist while the *Vines* are inactive, and only evenly so after they start, but when in free growth they need liberal supplies of nourishing food in liquid form, preferably alternating with supplies of water.

TO CORRESPONDENTS

All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Pupæ of Death's Head Moth (J. C. S.).—The pupa of the Death's Head moth should be kept in damp soil in a perforated box, with a perforated zinc cover, the box not being quite filled with soil, say with a clear space of about 3 inches between the soil and the cover, keeping in a cool room but safe from frost. The mould should be of a sandy friable nature, so that the pupa can wriggle about and emerge into the atmosphere when the proper time arrives in the early summer. The larva forms for itself an earthen cell underground, and it is probably the absence of this under artificial keeping that causes so many pupæ to perish, the pupal cases being in contact with the soil. The earthen cells should always be taken along with the pupal cases, then there is no difficulty. In most cases, however, it is advisable to rear the caterpillars, and let them crawl underground and form their own earthen cells in which to become pupæ.

Long-legged Spiders (Idem).—The spiders come strictly within the limits of economic entomology as beneficial insects. They are among the most powerful insect friends of man, and they contribute more perhaps than any other family to check the too rapid multiplication of insects. They derive their chief sustenance from them, securing them in various ways, some by pure hunting and speed, others by watching in corners and out-of-the-way holes, but a large proportion by forming the webs for which the family is best known. Their voracity is extreme. The description you give accords with the species named *Harpaetes Hombergi*, a hunting spider, which is quite harmless to plants. It is plentiful, and lives in cracks in the ground, crevices in rocks and walls, under stones, and decaying or exfoliating bark. The beautiful bronze beetle is probably one of the sun beetles, which are very voracious, being wholly carnivorous, and, in default of other food, will not spare their own kind. The curious little insect, like red velvet, is probably one of the numerous mites, though it has six legs, being in the early stage, as it will have eight legs when adult, and though many are injurious to plants, this species, *Acarus malus*, so named because sometimes found on Apple trees, does not appear to affect vegetation.

Climbers for House Walls (H. F. N.).—The following are good:—For west aspect: *Aristolochia Sipho*, *Lonicera odoratissima*, and *L. sempervirens* var. *Browni*, *Clematis montana* major, *C. Viticella rubra grandiflora*, *C. Lucie Lemoine*, *C. Jackmanni*, *Bignonia radicans*, *Cydonia japonica* and var. *alba*, *Jasminum officinale grandiflorum*, and *Roses Rêve d'Or*, *Bouquet d'Or*, *Anna Ollivier*, *Cheshunt Hybrid*, *Climbing Devoniensis*, *Gloire de Dijon*, *Marcelin Rhoda*, and *Perle de Lyon*. South: *Jasminum revolutum*, *Wistaria sinensis* and var. *alba*, *Berberidopsis corallina*, *Ceanothus azureus* *Gloire de Versailles*, *Escallonia macrantha*, *Magnolia grandiflora floribunda*, *Chimonanthus fragrans*, *Garrya elliptica*, *Lardizabala biternata*, *Passiflora cœrulea*, and *Roses Maréchal Niel*, *Sombreuil*, *Perle des Jardins*, and *Innocente Pirola*. North: *Ampelopsis hederacea*, *Clematis Vitalba*, *Hedera* (Ivy) *canariensis*, *H. palmaria*, *H. Rægneriana*, *Crataegus Pyracantha*, *Forsythia suspensa*, *Tropæolum speciosum*, and *Jasminum nudiflorum*.

Lilium Bolanderi (J. W. W.).—This Lily is somewhat scarce, but you should have no difficulty in procuring a stock from Mr. T. S. Ware, Ltd., Feltham. According to the description by Sereno Watson in the Proceedings of the American Academy of Arts and Sciences, the plant in a wild state has stems 1 to 3 feet high, each having one or two flowers, the leaves verticillate and slightly glaucous, and is related to both *Lilium parvum* and *L. maritimum*. The flowers have a nodding tendency, and are of a dull purplish hue or brownish red, becoming paler, and having numerous dark spots on the segments, the colouring and markings imparting a peculiar rather than a beautiful appearance. It is said to have been found on the Red Hills, Humboldt County, California, and in Humboldt Bay.

Chemical Manures for Tares (Ignoramus).—Dissolved bones, 3 cwt.; kainit, 4 cwt.; and nitrate of soda, 1 cwt. This is a full dressing per acre. The dissolved bones and kainit should be applied at the time of sowing, and the nitrate of soda in the spring, after heavy rains are over. Half the amounts quoted suffice when the land is in good "heart." If the soil is of a rather strong nature, the following mixture may be used at the time of sowing:—Sulphate of ammonia, $\frac{1}{2}$ cwt.; dissolved bones, $2\frac{1}{2}$ cwt.; dried blood, $\frac{1}{2}$ cwt.; and muriate of potash, $1\frac{1}{2}$ cwt., in mixture, per acre. The following mixture is advised in "Manures and Their Uses":—230 to 280 lbs. of superphosphate (20 per cent.), 140 to 160 lbs. of kainit (24 per cent.), mixed together and applied at the time of sowing. In the spring apply a top-dressing of 168 lbs. of nitrate of soda, in three instalments of 56 lbs. each.

Transplanting Biennials (C. S. C.).—The plants ought now to be bushy and fit for planting out in the places where they are to flower next year. Should they be growing so strongly as to become crowded in the nursery beds, and the situations they are desired to be grown in are yet occupied with other plants, it will be advisable to transplant them again, so as to give a check to their too luxuriant growth. Unless they actually touch each other, it will not be necessary to plant them wider apart, for the mere lifting them will give them a sufficient check. It will be well to attend to these suggestions, or the plants, should the winter be a severe one, will be all, or nearly all, destroyed.

Muscat Grapes (W. A. A.).—The loam is of a rather close scapy nature, almost destitute of gritty matter, and not containing a large amount of fibre or organic substance. It will require a considerable admixture of calcareous and gritty material to render it suitable for Muscats, say of the loam twelve cartloads, fresh horse droppings one cartload, old mortar or lime rubbish two cartloads, wood ashes, dry, one cartload, charcoal nuts one cartload, bones, crushed, 1 inch down to half inch, 5 cwt. The loam should be broken up roughly and all the materials well incorporated. It is better to have an

inside border only, and commence with a width of about 6 feet, rather than make the border all at once, adding to the breadth of border as the roots require more area. The border must be well drained, a 3 or 4-inch pipe drain being provided, with due fall and proper outlet. Twelve inches depth of rubble will be necessary for drainage, the roughest at the bottom, and diminishing to road metal size at top, and this should be secured with a thin layer of turves grass side downwards. On this should be placed the compost, 30 inches in depth, and it should be in good working condition, made moderately firm by beating with a fork. The Vines are best planted when they are beginning to grow, as they will in cool houses during March or early in April, the canes being pruned to the length required by or before the new year. If the canes are ordinary planting ones it is advisable to cut them to a couple of buds and start with an entirely new cane from the base, reserving the more promising growth and rubbing the other off. Of varieties the finest Muscat is Canon Hall, the bunches and berries being larger than those of Muscat of Alexandria, but it is a somewhat difficult variety to set, which may be effected by careful fertilisation, and when well done is the finest of all Grapes. For general purposes, Muscat of Alexandria is the most deservedly popular of Muscat Grapes, and this variety we advise to the extent of at least four Vines. Mrs. Pearson is also a good



FIG. 90.—LILIAM BOLANDERI.

so-called white variety, and of black Muscats Madresfield Court and Mrs. Pince are excellent. Gros Colman may be grown in the same house with Muscats, but it is not advisable to do so, as these require a somewhat warmer and drier atmosphere after ripening than Gros Colman.

Propagating Asparagus plumosus nanus (D. B.).—It may be increased by division, the plant being turned out of the pot, and the divisions taken off with a portion of growth and roots to each, potting singly in small pots, and placing in a rather close, moist house, and shaded until established. Cuttings of fully formed growths—the side sprays—taken off with a small heel, inserted around the sides of pots filled with sandy loam and a little leaf soil, surfaced with silver sand, the cuttings being inserted about an inch deep, placed in a close frame or covered with a bell-glass, keeping close and moist, will root, and when they are beginning to grow, an indication that they have rooted, they may be potted singly. Early spring is the best time for making divisions, and cuttings may be put in during the summer or whenever available.

Pelargonium Cuttings—Passifloras (Novice).—There can be no doubt that you have kept the cuttings of Pelargoniums too damp. If kept too wet after they are first inserted they invariably decay. They should have been kept somewhat dry until they had callused, and then they would have been perfectly safe. It is usual for Passifloras at this season of the year to continue growth without flowering. This is especially noticeable with those subjected to a damp, close atmosphere, and that have been overheated. From the description given of the leaves we can only conclude that mildew or some other fungoid growth has attacked them, although we have never seen these plants thus attacked. The white matter on the leaves may be due to too much damp in the house, or the excrement of some insect. If you had sent us leaves we should have been in a better position to have given you information that might have been of use. If you do so, and write us again, we shall be pleased to assist you.

Small Foster's Seedling Grapes—Watering Vine Borders with Town Water (Subscriber).—The berries are certainly small. Possibly the Vine is weak, though the growth is usually vigorous and free, and the wood moderately robust. If weak we should take up a new cane and gradually cut away the old rod in its favour, shortening the cane rather closely at the winter pruning so as to secure stout laterals or bearing shoots. If this be inconvenient allow more growth on the bearing shoots above the bunches, not pinching too closely. We should give the border a top-dressing of three parts dissolved bones, two parts sulphate of potash, and one part sulphate of magnesia, mixed, using half a pound of the mixture per square yard, and pointing in lightly. It is preferably applied in the autumn, or at the time of pruning. We should also mulch the border during growth with sweetened horse droppings. Town water may be used for watering the Vine, though hard water is best aired some time before use, and this you can do in an open vessel inside the house.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (Dunure).—Apples, 1, resembles Galloway Pippin; 2, Tower of Glamis; Pears, 1, Beurré Superfin; 2, rotten; Plums, unknown. (T. W.).—1, Court of Wick; 2, Cellini; 3, probably Betty Geeson; 4, Yorkshire Greening. (W. C.).—1, Warner's King; 2 and 3, rotten; 4, Magnum Bonum; 5, unknown and worthless; 6, rotten, possibly Transparent Gage. (C. T. E.).—1, Herefordshire Pearmain, small; 2, Harvey's Wiltshire Defiance; 3, Yorkshire Beauty; 4, Round Winter Nonesuch; 5, Reinette de Canada; 6, hard green Pears cannot possibly be identified. (J. M.).—1, Herefordshire Costard; 2, Lady's Finger of Lancashire; 3, possibly Cellini out of character; 4, quite rotten; Crab Siberian, small; the Grass cannot be identified. (W. B.).—1, Bergamot Destroyer; 2, past; 3, Breitling; 4, Flower of Kent; 5, Evargil; 6, American Mother. (G. P.).—Doyenné Bonsoch; said by good authorities to be Williams' Bon Chrétien.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (F. E. C.).—1, Aster amellus bessarabicus; 2, A. acris; 3, Pyrethrum uliginosum; 4, an excellent form of Harpalium rigidum. (T. W. S.).—1, Acanthus mollis; 2, Aster laevis; 3, Helianthus multiflorus; 4, H. cucumerifolius; 5, H. decapetalus; 6, Funkia subcordata. (L. G. B.).—1, Selaginella Wildenovi; 2, Francoa ramosa; 3, Hydrangea japonica. (C. F.).—1, Sparmannia africana; 2, Lilium speciosum (lancifolium); 3, Aloysia citriodora.

Covent Garden Market.—October 3rd.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bushel ...	2 0	to 3 0	Nectarines, doz. ...	1 6	to 9 0
" cooking, bushel ...	1 6	5 0	Oranges, case ...	10 0	15 0
Cobnuts, doz. lb., best ...	4 0	5 0	Peaches, doz. small ...	1 0	2 0
Damsons, $\frac{1}{2}$ bushel ...	0 9	2 0	" doz., good size ...	6 0	9 0
Figs, green, doz. ...	0 6	0 10	Pears, crate ...	3 0	7 0
Grapes, black ...	0 6	2 6	Pines, St. Michael's, each	3 0	6 0
" white ...	1 6	3 0	Plums, $\frac{1}{2}$ bushel ...	1 0	2 6
Lemons, case ...	10 0	20 0	" Californian, case ...	4 0	6 0
Melons, house, each ...	0 6	1 6	" common, sieve ...	0 6	1 0
" water, case ...	3 6	5 0			

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	3 0	to 4 0	Leeks, bunch ...	0 1	to 0 0
Beans, French, sieve ...	1 0	1 6	Mint, green, doz. bunches	2 0	0 0
" scarlet, bushel ...	0 3	1 0	Mushrooms, lb. ...	1 3	1 6
Beet, red, doz. ...	0 6	0 0	Mustard and Cress, punnet	0 2	0 0
Brussels Sprouts, sieve ...	1 6	2 0	Onions, Dutch, bag ...	4 0	4 6
Cabbages, tally ...	3 0	5 0	Parsley, doz. bunches ...	2 0	0 0
Carrots, doz. bunches ...	2 0	3 0	Peas, English, bushel ...	5 0	6 0
Cauliflowers, doz. ...	1 0	2 0	Potatoes, cwt. ...	3 0	5 0
Celery, bundle ...	1 0	0 0	Shallots, lb. ...	0 2	0 3
Cucumbers, doz. ...	1 6	3 0	Spinach, bushel ...	2 0	0 0
Endive, score ...	1 6	6 0	Tomatoes, English, lb. ...	0 2	0 4
Herbs, bunch ...	0 2	0 0	Turnips, doz. ...	2 0	3 0
Lettuce, doz. ...	0 9	0 0	Vegetable Marrows, doz. ...	0 6	1 0
" Cos, score ...	0 6	2 0			

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch ...	1 6	to 2 0	Maidenhair Fern, dozen	2 0	to 4 0
Asters ...	3 0	4 0	bunches ...	2 0	to 4 0
Carnations, 12 blooms ...	1 0	2 0	Marguerites, doz. bnchs.	2 0	4 0
Cattleyas, doz. ...	6 0	12 0	" Yellow doz. bnchs.	2 0	4 0
Chrysanthemums, doz.			Odontoglossums ...	3 0	4 0
blooms ...	1 0	3 0	Pelargoniums, doz. bnchs.	6 0	8 0
Eucharis, doz. ...	2 6	4 0	Roses (indoor), doz. ...	2 0	4 0
Gardenias, doz. ...	1 0	2 0	" Red, doz. ...	1 0	2 0
Geranium, scarlet, doz. bnchs.	4 0	6 0	" Safrano, doz. ...	1 6	2 0
Gladiolus, doz. spikes ...	1 0	2 0	" Tea, white, doz. ...	1 0	3 0
Lilac, white, bunch ...	5 0	7 0	" Yellow, doz. (Perles)	1 0	2 6
Lilium lancifolium album	1 6	2 6	" English—La France,		
" rubrum	1 6	2 6	doz. ...	1 0	2 0
" various ...	2 0	3 0	Smilax, bunch ...	2 0	4 0
Lily of the Valley, 12 bun.	10 0	15 0			

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12 0	to 24 0	Foliage plants, var., each	1 0	to 5 0
Arbor Vitæ, var., doz. ...	6 0	36 0	Geraniums, scarlet, doz. ...	6 0	10 0
Aspidistra, doz. ...	18 0	36 0	" pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15 0	20 0	Hydrangeas, white, each	2 6	5 0
Azaleas, various, each ...	2 6	5 0	" pink, doz. ...	12 0	15 0
Boronia, doz. ...	20 0	24 0	" paniculata, each	1 0	3 6
Cannas, doz. ...	18 0	0 0	Lilium Harrisii, doz. ...	8 0	18 0
Orotons, doz. ...	18 0	30 0	Lycopodiums, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12 0	30 0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna viridis, doz. ...	9 0	18 0	Mignonette, doz. ...	8 0	12 0
Erica various, doz. ...	8 0	18 0	Myrtles, doz. ...	6 0	9 0
Euonymus, var., doz. ...	6 0	18 0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4 0	18 0	" specimens ...	21 0	63 0
Ferns, var., doz. ...	4 0	18 0	Roses, doz. ...	6 0	18 0
" small, 100 ...	4 0	8 0	Stocks, doz. ...	8 0	12 0
Ficus elastica, each ...	1 6	7 6			

Trade Catalogues Received.

I. House & Sons, Westbury-on-Trym.—*Violets.*

Ellwanger & Barry, Mount Hope Nurseries, Rochester, N.Z.—*Roses and Bulbs.*

Pinehurst Nurseries, Pinehurst, Moore County, North Carolina.—*Woody and Herbaceous Plants.*

T. S. Ware, Ltd., Feltham.—*Bulbs and Plants.*

E. Webb & Sons, Wordsley, Stourbridge.—*Seed Corn.*



Forced Farming and Forced Sales.

THE price, or rather absence of price, of much English grown fruit at the present time leads us to consider the helpless condition of the growers thereof to make even a working profit of a record crop. It is our boast that British industries are self-supporting and independent of bounty and duty systems; but there surely must be a limit which might be put by Government to imports of foreign produce at unnecessary and inopportune seasons, and the strongest advocate of free trade could hardly object to an import duty on foreign fruit at a season like the present, when the home supply is so superabundant.

The relation between fruit and sugar is so close that we, perhaps, may be allowed the suggestion that with cheap bounty-fed sugar at his disposal the British consumer could well afford to pay for his fruit such a price as would recompense the grower for his labour. The latter has to pay his rent and rates whether his produce is saleable or not. He is forced to pay the former, and at present is forced to take for the latter a price which hardly pays the expense of gathering.

Large quantities of Plums have fetched no more than 3d. or 4d. per stone, and even Damsons are only worth 9d., and can be purchased retail at 1d. per lb. Meanwhile thousands of tons of French fruit have been put on our markets and sold without hindrance, although everyone in the trade knew that later on the home supply would be more than sufficient for all requirements. What makes matters worse is the exhausted state of the trees. The weight of fruit has been so great that they have made little or no new wood, and there is no possibility of anything but a poor crop next year.

The grower is forced to sell in the home market, and take what the public will give him; but is he forced to allow his trees to be so over-fruitful as to overstock that market? Certainly not? And good will come from evil if this season's experience teaches him to greatly reduce the fruit upon his trees as soon as he sees that the crop will be too heavy. How would it answer to entirely denude every other tree at an early period? The stripped trees would at any rate have a chance of bearing the following year, and the eggs would not be all in one basket. We cannot make our trees bear earlier except under glass, but we may force them to bear more regularly.

It is this irregularity in the home supply which enables the foreigner so often to capture our markets. For instance, there is the Potato market. Crops of the tuber will be, nay are, very light; dealers are now giving as much as 70s. per ton for delivery this year, and the markets will be filled with German and Belgian Potatoes to make up for the deficiency in the home supplies. If our crop next year be a good one the foreign supply will nevertheless continue, and it will take months of ruinously low prices to drive it away again. Steady markets at fair prices are what the British farmer wants. Great and wide fluctuations simply enable the middleman and speculator to absorb more than their share of the gross proceeds.

The necessity for quicker and easier means of communication between grower and consumer is as great as ever it was. Will the motor car movement do anything towards solving the problem? We hope so. In any case the motors should give a much needed spurring to the railway companies, whose managers complain loudly of reduced traffic and increased expenses, but do little to encourage or foster the movement of home productions, whilst they will carry foreign produce for a mere trifle. We have tried sending fruit and other farm produce by rail, but find the charges too high to pay. Parcels post

would be the cheapest if there were no limit of weight, but 1d. per lb. is a fatal charge for the carriage of produce worth less than that at its destination. A really easy rate for parcels or cases of $\frac{1}{2}$ or 1 cwt. for any distance would soon create a big traffic in farm products. Most town dwellers have friends in the country ready and willing to supply them with fresh vegetables and fruit if reasonable means of transfer were available. There is an opportunity for rural electors to make their influence felt, and instead of being the forced party cannot we bring some pressure to bear on candidates to, in their turn, force the hands of the railway magnates?

Farmers complain very much of the increase in their all-round expenditure. In almost every particular have their outgoing increased. Even rents are inclined to rise, and competition for farms is very keen. For one farm shortly to be given up we know there are more than sixty applicants. Can we blame the landlord if he asks for an increased rent? The labourer can now command any reasonable terms from his employer, and the latter is forced to accede to his demands or be left to do the work himself. To stand any chance of paying his way the tenant must keep first-class stock and force them to early maturity, he must be a free purchaser both of artificial foods and manures, for which he is forced to pay enhanced prices. When his stock are fit for market he finds the butchers in strongly organised combination against giving him a fair price, and too often at the public auctions is he entirely at their mercy.

Is it necessary that the average farmer should so continually be, as it were, at a force-put? How can he best emancipate himself from the thralldom of so many petty factions which in the aggregate are so overwhelming? Combination and closer union with his neighbours is the only remedy. Much has been done in Yorkshire by farmers' clubs, which have developed, either directly or indirectly, into co-operative societies.

There is no reason why farmers cannot combine and co-operate any more than other classes do if they will only make up their minds to put away all the petty jealousies which now do so much to make them antagonistic and divided. A good farmer appreciates a good neighbour, and there is no reason why his neighbours should only be those of his own parish. In union is strength, and we most firmly believe that in closer combination and co-operation between individuals lies the only means of salvation for the farmers of to-day.

Work on the Home Farm.

Farmers who are not ploughing for Wheat are busy lifting Potatoes. The latter, though not quite as ripe as we like to see them, are just ready, and a round with our neighbours has found them all at work. As one remarked, the weather is fine now, and we do not know what we may have next week. The crops vary very much. One patch of British Queen was taking up small, but very numerous, as also, we are sorry to relate, were the diseased tubers. Up-to-Dates, the chief variety, also vary much, some crops being double the size and weight of others. One field which had been well sprayed is a very fine sample, too big, if anything, and very free from disease at present, but they are not yet fit to lift, as an examination of them in the heap shows many ruffled skins.

Irishmen do the picking up at 21s. an acre, and the rows are ploughed out with an ordinary Potato plough. There is a prejudice, unfounded we think, against the machine or revolving digger as being apt to bruise the tubers. In time no doubt the diggers will prevail. We hear rumours of a very successful new Potato lifter, with lifting as distinguished from revolving action, but do not know the name of the maker. The result of further inquiries we will give our readers on a future occasion.

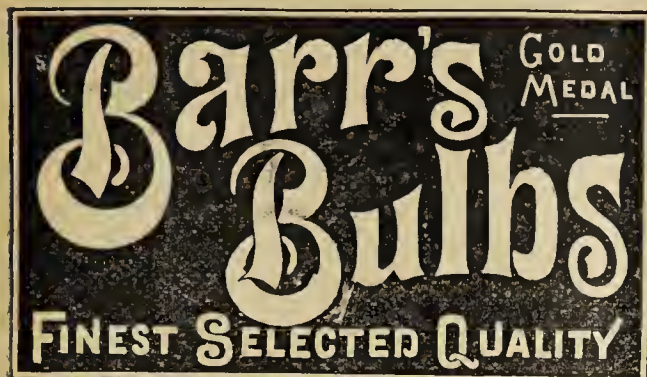
Growers are making their pits or pies narrower than usual owing to the presence of the disease, but we measured one nearly 8 feet wide, and which would contain nearly 1 ton to the yard run.

Threshing machines are kept well employed, and the more we know about this year's crops the poorer do we find the results, which are in most cases far below the most pessimistic estimates.

The black-faced rams are with the ewes, and it will soon be time for all breeds to be in use. The ewes are well and full of condition, pastures are abundant, especially young seeds, which make capital food for ewes at this season, and it will be the farmer's own fault if he has not a good fall of lambs. To prevent any chance of failure it is well to change the rams at the end of each fortnight. Lambs are well on Turnips, and are beginning to make headway with the crop, which is very different from last year's.

Another outbreak of foot and mouth disease makes us nervous. Surely we are not going back to the old vexatious times of rules and restrictions. It is bad enough to have a chronic epidemic of swine fever without foot and mouth as well.

Pigs for bacon purposes are being put up to fatten. Many of them are fat now, but they are too big to be saleable yet, and if sold their places would be difficult to fill, for strong stores are decidedly scarce. Small pigs are plentiful and cheap.



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Journal of Horticulture.

THURSDAY, OCTOBER 11, 1900.

Renovating Vine Borders.



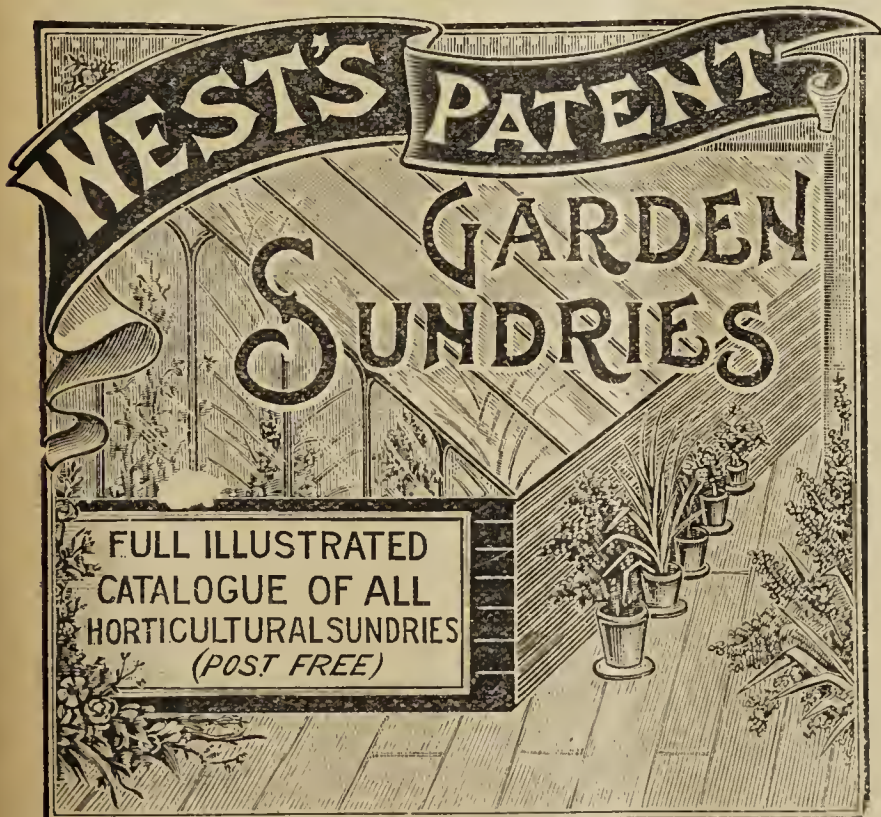
THE successful Vine grower must be a man of action, who possesses sound judgment with some caution, but the latter quality should not be so pronounced as to cause misgivings about taking a bold course when necessary. No matter how well

Vines are managed in other respects border renovation to some extent is necessary from time to time, and may be looked upon as part of the routine in successful Vine growing. In establishments where there are a number of vineries one or more usually needs a little extra attention at the roots each year, and autumn and early winter are undoubtedly the best times for carrying out the work, which should, whenever possible, be done before the leaves have fallen, as young roots then begin to push at once into the fresh soil. When Vines carrying late crops have to be operated upon the work should of course not be commenced till the Grapes have been cut, but an effort ought to be made to harvest them as early as possible to give the Vines a long season of rest.

October is an excellent month during which to give Vines in an early house the attention needed, as the laterals will have been shortened back to a few joints, and the leaves left will be sufficient to encourage root action without drawing too largely upon the supply of sap while the "feeders" are being disturbed.

In those instances in which the Vines are growing in both inside and outside borders only one should be operated upon now, the other next year. I have previously hinted that varying degrees of renovation are necessary according to the circumstances of each case; we must learn to distinguish between a border in which the roots are fairly active, and one which shows no trace of roots on the surface, because the active feeders have gone down to the subsoil, a condition of affairs which is never satisfactory, and is frequently a

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cause of shanking. In the former case the surface soil should be removed to a depth at which roots are found to be fairly plentiful; this may be at from 6 to 12 inches from the top. As the work proceeds all healthy roots ought to be carefully preserved, by tying them to stakes inserted at intervals in the border. When the borders are wide I always like to take out a trench at the extremity quite down to the drainage, as the general condition of the roots can then be noted. From 18 inches to 2 feet is a suitable width for such a trench, and all roots should be cut off close to the inside of the trench.

After examining, and if necessary re-arranging, the drainage, the trench must be filled with prepared compost pressed moderately firm. Such a fresh, sweet body of soil usually attracts plenty of roots, which soon form a network in it, greatly to the benefit of the Vines. Strong fibreless roots may be cut away in making the trench, they can well be spared to make room for the active fibres which their curtailment causes to be produced. The main portion of the border should next receive attention. Place upon it a layer of soil, then spread out the roots in all directions, cutting notches in strong ones to encourage the production of fibres. When the soil has been excavated to a considerable depth it is unwise to arrange all the roots in one layer; some should be reserved for spreading out near the surface, and covering with a few inches of soil, this to be trodden moderately firmly and then levelled with a fork.

Before the above operations are commenced the roof of the house ought to be shaded, then by syringing the foliage of the Vines for a couple of weeks it will keep firm and fresh, and by maintaining the circulation of sap help to encourage the formation of young roots. Vines so treated at the present time may, without misgiving, be started at the end of December. In dealing with Vines which are in a very unsatisfactory state, which is shown by badly coloured Grapes, long in the shoulder, and by unripened wood, a bolder method must be adopted. If there is an inside border as well as an outside one, the whole of the soil in the former may be cleared out and replaced by fresh, the outside border being treated in a similar way next year. In many cases, however, there is only one border, and a certain amount of caution has then to be exercised. The plan I have found to answer admirably is the following one: Take out a trench at the extremity, and preserve all healthy roots found; then fork out the soil from between the roots up to within 3 feet of the Vine stems. As the work proceeds tie the roots in bundles to strong stakes, and cover them with mats to prevent them from becoming very dry, and in bright weather damp the roots occasionally. The remaining 3 feet of border should not be disturbed except on the top, where from 9 to 12 inches of soil may be removed.

The drainage should next be cleared out, the pipes (if any) relaid, and covered with 6 inches of broken bricks or clinkers, over which place some rough straw, and then add a layer of turf with the grass side downward; all is then ready for refilling the border. In doing this if possible keep the bulk of the roots within a foot or 15 inches of the surface, as they generally find their way downward quickly enough. Cut away all damaged or decaying roots, remove the points of others, and spread them out in layers so as to distribute them evenly over the surface of each layer of soil, and press the compost firmly. When the border is more than 6 feet in width it is sometimes a good plan to reduce it to that width by piling up a wall of turf to form the boundary and bending the roots backwards, so as to get them within the lessened space. A narrow border packed with roots will give infinitely better results than a wide one in which roots are not plentiful, as in the latter case it is not an easy matter to prevent the soil from becoming sour.

After the renovation is completed, an outside border may with advantage receive a coating of rough manure or leaves, to prevent frost from penetrating to the roots, but with an inside border I prefer to leave the soil fully exposed to air and sunshine until active growth is going on, then a mulch is beneficial. When this bold method of renovating is adopted with Vines in an early house they should not be started till the end of January, and if cropped lightly for the first year after being disturbed vastly improved results will follow.

In connection with the improvement of old Vines by border renovation, it is well to bear in mind how beneficial is the practice of leaving a little more young wood at pruning time, by adopting the long spur system of pruning. A good crop of Grapes usually satisfies an employer, even if the rods are not particularly "smart" in appearance; but a neatly pruned Vine which subsequently carries only inferior Grapes satisfies no one, except during its season of rest. After vigour has been restored young rods can be taken up and the old ones by degrees be cut out.

Although I have left till last the consideration of a suitable compost to employ in Vine borders, it is certainly not because it lacks importance. Good loam of medium texture, having plenty of fibre, should be the principal ingredient; to eight loads of this add one of horse manure, half a load of old mortar, and 2 cwts. of bonemeal. The latter phosphate is, I think, not generally used so freely as it should be for Vines, as it favours the production of short-jointed, hard, closely-grained wood, which is the forerunner of compact, well finished bunches of Grapes.—H. DUNKIN.

The Best Cactus Dahlias.

It will probably be of considerable interest to many readers of the *Journal of Horticulture*—particularly, perhaps, to amateurs—to know of a dozen really good Cactus Dahlias—in fact, the best dozen we have of different colours. In making the selection of these I have taken them mostly from an exhibition point of view, although nearly all are also amongst the best for the decoration of the garden, and in one or two cases they are the tip-top for both purposes.

Beginning with the yellow Mrs. J. J. Crowe; this is undoubtedly the best, being of beautiful form, large size, and combining with its fine flowers a good habit. For white we must still come to Keynes' White, although, judging from this year's new whites, it will soon be surpassed; but as I intend to include only varieties in commerce it is the best. In very dark ones we have Uncle Tom, an almost black; it is a magnificent variety of perfect habit and exceptionally free-flowering qualities, which have enabled it to effectually displace the old favourite Night. For scarlet we have Mrs. Carter Page, which is very pleasing in form and an easy grower.

Viscountess Sherbrooke, terra-cotta, is especially good for almost any purpose, and is, moreover, a very dwarf grower. The invincible Britannia must not be forgotten; its everlasting way of producing good blooms being truly marvellous. Mary Service is a charming colour, pinkish heliotrope; the flower is held very erectly; its only fault is its rather small size. Charles Woodbridge, although old compared with the others named, holds its own, and its large crimson-purple flowers are always good; it is often difficult to get many in perfection together, but when a bloom is out there is something to look at. Then we have Mayor Tuppenny, a lovely yellow suffused with orange, which has been truly grand this summer; it is a pleasing break in colour; and Starfish, orange scarlet, which almost everyone knows by this time.

The list would not be complete without one of the bicolored flowers, and taken all round The Clown, red tipped white, is the best; it is a tall, strong, erect grower. Magnificent, rosy salmon, slightly heavy perhaps, but nevertheless good, has given great satisfaction in many gardens this autumn, completes the dozen.

We therefore have Mrs. J. J. Crowe, yellow; Keynes' White, white; Uncle Tom, very dark; Mrs. Carter Page, scarlet; Viscountess Sherbrooke, terra-cotta; Britannia, soft salmon; Mary Service, pinkish heliotrope; Chas. Woodbridge, crimson purple; Mayor Tuppenny, yellow and orange; Starfish, orange scarlet; The Clown, red tipped white; and Magnificent, rosy salmon. For an extra one add Countess of Lonsdale, which, although too heavy for exhibition, is a gem for garden decoration. Having grown all the above with, I think, perfect success, I presume that no one will find any of these disappointing if they give them a trial another year.—F. C. C.



Autumn Flowering Lælio-Cattleyas.

There are many more choice Orchids that flower in autumn now than formerly, the introduction of new and the reintroduction of a few old species having added materially to the list. But there is room for many more as evinced by the paucity of these plants at shows generally at this time of year. As the autumn flowering hybrids of *Cattleya* and *Lælia* become better known and cheaper, these will without doubt fill a blank in a number of cases, but unfortunately they are as yet not sufficiently plentiful to be fairly represented in any but the best collections.

There was a lesson to be learnt at the Drill Hall meeting on September 25th. Had it not been for the fine groups set up by Messrs. Veitch the Orchid exhibits would have been singularly small and uninteresting; and though there was, even with this, a very much smaller display than usual, and nothing new or particularly striking among them yet their value at this dull time cannot be gainsaid. The wisdom of using good varieties of the separate species is very apparent as time goes on. For instance, the pretty Lælio-Cattleya *Epicasta* was shown in good form. This is the result of a cross effected by Messrs. Veitch between *Cattleya Warscewiczii* (*gigas*) and *Lælia pumila*, and in the form shown was distinctly good, with a fine broad and beautifully coloured lip.

This has been exhibited many times during the last seven years, it having been shown first at an August meeting in 1893. During the month just passed Mr. Cypher of Cheltenham exhibited as new a cross between *Lælia Dayana* and *C. Warscewiczii*, but although the near relation would lead one to expect almost a duplicate of *L. C. Epicasta*, it was not nearly as good. It is only fair to Mr. Cypher's plant, however, to say that it was weak and possibly undeveloped, so we may see it in better form when this clever grower has given it another year's care.

Another instance of the same thing may have been noted in Messrs. Veitch's group. *L. C. Nysa* (fig. 91) is the result of crossing *Lælia crispa* and *Cattleya Warscewiczii*, and has been known since 1894. *L. C. Bryan* is newer, and sprung from *L. crispa* and *C. Gaskelliana*. But the older form is infinitely better, that lovely crimson purple tint coming higher up the unfolding lobes of the lip, when it finishes in a clear cut line, a very beautiful hybrid. That fine introduction of Messrs. Veitch, *Cattleya Bowringiana*, is parent to many very charming

autumn flowering Orchids, and they were well represented in the groups referred to.

The singular *Cattleya Chloe*, for instance, is the result of crossing this and the old *C. bicolor*. The relationship to the latter is plainly seen in the naked column of the hybrid, the side lobes of the lip not enfolding this organ, as is usual in the genus. Very fine, too, is *Cattleya J. W. Whitely*, a cross between *C. Bowringiana* and *C. Hardyana*. It is like a glorified *Bowringiana* with a broad instead of a tubular lip, a plant that, should it ever become plentiful enough, ought to be a standard autumn bloomer.

There were many other fine things in the group, and also some fine seedlings of doubtful parentage, from Mr. Young, gardener to Sir Frederick Wigan. There is a good time coming for Orchid growers when these lovely forms get plentiful. One of the seedling Lælio-Cattleyas referred to from the noted Sheen collection must have been at least 9 inches across, with a very beautiful lip of the richest crimson purple. A score of such plants would light up a house just

now, and as most of the hybrid forms appear to be good growers we may hope the time may not be long delayed.

Peristeria elata.

To insure the best result this plant requires a sound compost with ample supplies of moisture while growing, and it is the neglect of these important points that leads to the unhealthy state in which the plants are frequently seen. Not once, but many times, I have seen the plants suspended in baskets with a compost as poor as that generally used for epiphytal weak growing species. Perhaps for the greater part of the day the compost will be absolutely dry, the large fleshy roots meanwhile being starved.

What the plants really succeed in is a mixture of loam, peat, and sphagnum moss, with plenty

of rough charcoal crocks, or other material, so that the continuous moisture does not bring it into an unsound state. The flowers just now are very beautiful, the centre of each being an almost exact representation of a white dove—hence the popular name of Dove Orchid. It comes from Panama, and succeeds best in a house moderately heated, or say the *Cattleya* house. In more heat than this the foliage is very apt to be overrun by red spider, scale, and other insects.

Masdevallia Davisii.

The prevailing colour of the showy flowered section of *Masdevallia* is red in some shade or other, and yellow forms are by no means plentiful. *M. Davisii* is a pretty clear yellow, and this is what makes it so valuable at this time of year. It is named after the energetic collector who found it over a quarter of a century ago in Peru. Its habitat is suggestive of the treatment likely to suit it. Cool moist conditions all the year round with plenty of shade in summer, and in winter a good clear light, are best for it. The pots used should be on the small side, and the drainage perfect.—H. R. R.



FIG. 91.—LÆLIO-CATTELEYA NYSA.

Successful Market Gardening at Mount Sorrel.

A FIVE mile ride along the broad main road leading from Leicester to Loughborough forms a pleasant diversion for a jaded worker at any season of the year; but when the journey is made during a delightfully sunny September afternoon one is apt to take a roseate view of life and things in general, and to cherish the conviction that Leicestershire, with all its flatness and lack of variety of scenery, is still a fair county to visit, and a healthy one to live in. Such thoughts passed through my mind as I recently sped onward to the picturesque village of Mount Sorrel, which is by no means a small one; nor are the inhabitants lacking in enterprise. The mount juts out from a sloping hillside, and forms a rugged landmark, beneath and around which the village nestles. Tradition has it that the summit of the mount was once crowned by a stately castle, which shared the fate of many others which for a time barred the way to Cromwell's victorious march. The 200,000 inhabitants of Leicester need immense supplies of vegetables, and in the neighbourhood are many thriving market gardeners, who have pressed onward in the battle of life by raising and growing crops to supply those needs. Vegetables are a necessary of life, and though they have sometimes to be sold cheaply the cost of production is not great, and in large manufacturing towns they are more readily disposed of than choicer products which cost more to grow, hence the reason why in such districts vegetable growing is the most profitable branch of horticulture.

The village of Mount Sorrel has reason to be proud of the good work accomplished by Mr. W. Whittle, a thriving market gardener, who, by the indomitable will and steady perseverance of a true Briton, has fought and won against the keen competition of modern times; that, too, without having had a horticultural training. Until on the verge of forty he was a skilled workman in a manufacturing trade, and having always taken an interest in gardening, at that age he commenced his business career by renting a few acres of land to grow vegetables. It was no child's play in those days of early struggles; for the prosperous man of to-day had then absolutely no capital. Still he struggled onward, finding out for himself what crops were the most profitable, and the way to grow them. With the help of his family matters steadily improved till he was able to purchase a few acres of land, and to-day Mr. Whittle is the owner of from 20 to 30 acres of good, sound land, which, through high feeding and the best of culture, will produce splendid crops, which always find a ready sale. Strawberries, early Cabbage, Potatoes, Cauliflowers, and winter greens of various descriptions are grown in large quantities, and invariably leave a margin on the right side.

At the time of my visit I found a long border in front of a south wall entirely occupied by Tomatoes, and a heavier crop it would scarcely be possible to produce, the varieties grown being Early Evesham and Laxton's Earliest of All. There is, however, an unfortunate point to record—viz., fully one-half of the fruits are blackened by disease. A breadth of Potatoes growing near showed signs of disease a few weeks ago, and the Tomatoes also were shortly afterwards affected. Mr. Whittle knew nothing about the Bordeaux mixture, or he might have sprayed both Potatoes and Tomatoes in July, and thus prevented the attack. Still it is another lesson learned by experience, and will doubtless be turned to account in the future.

During the last few years a good deal of glass has been erected, and further additions will probably be made shortly. In the matter of glass, as in most other things, Mr. Whittle has large ideas. True he has a few small houses, which have been bought at sales, but the length of the majority is numbered by hundreds of feet. In one span-roofed structure, 240 feet in length, the crop of Cucumbers, which I was informed had been a very fine one, was almost over, and would shortly be cleared to make room for Chrysanthemums. Early in the season a row of Ferns had been placed on the soil of the Cucumber bed, and at the time of my visit thousands upon thousands of young seedlings were growing in the soil on the edge of the bed. A most valuable "catch" crop this, as Ferns in quantity were wanted, and a few weeks' work for "young hands" could easily be found in lifting and pricking off the baby Ferns. Tomatoes and Cucumbers were the principal crops in the other large houses, and Ferns in the smaller ones. Next year one house will probably be planted with Grapes.

A word about what is termed the "big" Tomato house, erected on the Jersey style. It is 240 feet in length, and 36 feet in width. When I saw it perhaps not more than half the crop had been cut, so no definite idea could be given as to the total weight of fruit that one house would produce, but it would certainly amount to several tons. Here again a common error had been made, the plants having been set a little too close. It is a mistake so easily made in large houses,

where the plants are planted in rows across the border. Another item will therefore be added to the long list of details learned by experience, and stored in the memory for future benefit. This point clearly illustrates the character of the man who has fought his way onward against difficulties which a trained horticulturist would not have to encounter. Notwithstanding such drawbacks, however, there is still no lack of enthusiasm; and the next phase of gardening which Mr. Whittle intends to grapple with is the names of the best plants to grow for market; on this matter at present his knowledge is almost nil.

Such is a brief sketch of the struggles of a type of man of which Britain cannot have too many; he believes in the ultimate victory of the man who sticks to his task, and last spring, when General Buller was encountering almost insuperable difficulties in crossing and recrossing the Tugela river, a happy thought struck the struggler at Mount Sorrel, and henceforth his flourishing concern will be known as Tugela Nurseries.—MIDLANDER.

A Fine Tomato.

WHATEVER there may be of newness or distinctness in any Tomato, certainly the one under notice has as much claim to be regarded as distinct as any other. I had a note a few days since from a total stranger to me, Mr. J. Walker, gardener to A. G. Poole, Esq., of Fairfield, Cobham, Surrey, asking if I would be pleased to call there and see what he regarded as a fine lot of Tomatoes. Having just then a few hours' leisure I went down as desired. I found Fairfield to be about a mile and a half from Cobham station on the S.W. Railway, and right on the edge of what is, I think, called Fair Mile Common, certainly a delightful spot in the summer, whatever may be its "attractions" in the winter. The place looks south over a beautiful range of country. The gardens are very pretty, the grounds well wooded, and present altogether a spot where one may find life exceedingly pleasant and enjoyable.

The Tomatoes were found in a span-roof house, 10 feet broad at the base, and 30 feet in length, the roof having a sharp pitch to the ridge, which is 7 feet from the ground. The plants were in 8-inch pots, and there were thirty-two of them on each side. Even with such restricted root room the pots were not entirely filled with soil. Judging by the truly grand crop, and wonderfully fine fruit seen when I looked in, the assumption seems fair that the less root area Tomatoes have the better they fruit. The illustration (fig. 92) given of a few of the plants at one end of the house conveys but a poor idea as to the appearance of the crop on the sixty-four plants. Not only was it a remarkably heavy one, but I have never at any time, and I have seen a few houses of Tomatoes, noticed so many fruits ripen at once that would be regarded as first-class for exhibition. I could have gathered 100 fruits that would have challenged any other private gardener to have beaten with an equal number from his garden.

The pots were standing on narrow troughs filled with animal manure and road scrapings in equal quantities, into which roots from the pot holes could run. Still there was no great evidence that they did so. The seeds were sown on February 20th. The seedling plants were got into 60-sized pots in March, then into 32's early in April, and had their final potting and were put into the fruiting positions on May 2nd. That will show that they were neither unduly hurried nor allowed to stagnate. Their final compost consisted of turfy loam, road scrapings, leaf soil, well decayed animal manure, wood ashes, soot, and bonemeal. It was no doubt on the whole a good compost, and experience showed in the results that the plants liked it.

The soil was made fairly firm in the pots, and as a special stimulant a light dressing of superphosphate was tried, but no appreciable benefit resulted. Of course each plant was severely restricted to single stems. The house is amply ventilated by sliding sashes at the top and sliding frames at the sides near the ground. A marked feature in the fruits was the absence of cracking.

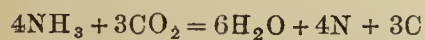
The variety was obtained by Mr. Walker a few years since by crossing Perfection with a variety named Shardelow, but I had never previously heard of it. The fruits have all the Perfection form, are very fine, and seem to have no small ones. It will be no matter for surprise to find that this fine stock will soon be in the market, as Messrs. Jas. Veitch & Sons of Chelsea have the seed stock for disposal. The variety is named Fairfield Tomato.—A. D.

Carbonic Acid Gas as a Fertiliser.

I NOTICE your paragraph about nitrate of soda in the *Journal of Horticulture* (page 272), and you will observe that I have expressed the same opinion on the paper which I enclose. This paper is a copy of the last sheet of an essay I have written describing a process which I have perfected for effecting the synthesis of atmospheric nitrogen with the hydrogen of water and so producing ammonia. I shall read that paper shortly I hope before one of the learned societies, but, meanwhile, if you wish to announce the fact in your columns, pray do so. Gaseous ammonia in the form of sulphate is worth about £40 a ton; I do not think it will cost more than 30s. in the way I make it.

What I particularly wish to ask you is your opinion about the value of carbonic acid gas as a fertiliser. You will observe that in my paper I assert it nourishes plants. That is my opinion—of course I may be wrong—based upon the fact that ammonic carbonate makes plants grow more vigorously than ammonia *per se*. It would seem, therefore, that roots absorb or act on carbonic acid as well as leaves. This would also seem to be confirmed by the fact that soils containing much decaying vegetable matter are always fertile. Of course the oxidation of organic substances develops heat, which would assist the plant, but I cannot help thinking that the carbonic acid which is produced by the oxidation feeds it also. We know what a powerful fertiliser urea is, and that substance on decomposing in soils generates both ammonia and carbonic acid. You will perceive that the artificial guano described by me contains molecular quantities of urea and ammonic carbonate.

I find that ammonia soon permeates a plant. Is it not the case that when it is decomposed by the plant into nitrogen and hydrogen, the hydrogen that is liberated helps the plant in reducing carbonic acid to carbon? A plant reducing carbonic acid to its elements in the presence of ammonia in accordance with the equation



produces 72,000 heat units. If ammonia is absent it absorbs 288,000 heat units, and that amount of plant force is wasted. It seems to me that ammonia not only helps a plant to do its work of splitting up carbonic acid, but at the same time supplies it with water to work with and the nitrogen it requires for its tissues.

It is quite unnecessary for me to make any remarks about the importance of cheap ammonia to the manufactures of this and other countries; its uses in the arts are many. I will, however, take this opportunity of pointing out a matter of some moment to humanity at large. Nitrogen in the form of ammonia is the most powerful plant fertiliser known; it is very valuable when combined with soda. Nitrate of soda, containing some 16 per cent. of nitrogen, is used in agriculture to the amount of $1\frac{1}{4}$ million tons annually. Large quantities of sulphate of ammonia, in which is about 25 per cent. of the alkaline gas, are similarly employed. In both these cases, however, there is a great proportion of substances combined with the nitrogen and ammonia which have no value as fertilisers, and hence there is much waste.

Now it is quite easy to prepare from ammonia a fertiliser which is all plant nourishment, containing no waste material whatever. It is only necessary to bring ammonia in contact with carbonic acid gas, which is produced abundantly wherever fires are burning, to obtain a

white solid, ammonic carbonate, by the union of those gases. We may go a step further and produce artificial guano—artificial indeed, but much more valuable from its great purity than the natural article. When ammonic carbonate is heated to about 140 C. in a closed vessel it undergoes a change, and is converted into a mixture of urea and ammonic carbonate. Whoever desires to make half a dozen ears of corn grow where one is produced now may realise his wishes by using a little of that mixture.—W. MILLS.

[From a new book* that has just reached us, and which is likely to be of great value to students in agri-horticultural schools and colleges, we extract the following observations bearing on the value of carbonic acid gas (carbon dioxide) and its appropriation, about which our correspondent inquires:—

The source from which plants obtain the large quantity of carbon, of which more than half their dry weight consists, has been the source of extensive investigation for a long time.

Parasitic plants, such as dodder, broom rape, and many fungi, attach themselves to other living organisms and absorb the carbon they need in the form of sugar, proteids, and other elaborated carbon compounds from their victims. Saprophytes, such as the bird's-nest orchis (*Neottia*), mushrooms, and the majority of common fungi, which, like the above mentioned parasites are devoid of chloroplasts, obtain their carbon in a similar elaborated form from the carbon compounds present in the remains of dead plants and animals on which they grow.

It is probable also that all green plants absorb and utilise organic carbon compounds from the *humus* or decaying vegetable and animal remains within the soil, although it has been proved that this source is insufficient to supply all the carbon needed for the perfect healthy nutrition of plants of this kind.

By the method of water culture or sand culture it may be readily shown that ordinary green plants flourish and increase in carbon-content when their roots are supplied with a solution of food materials containing no carbon, so long as the solution contains all other essential elements. Under these circumstances the only source of carbon is the carbon dioxide of the atmosphere surrounding the leaves.

In the processes of fermentation and decay going on in ordinary soil carbonic dioxide is produced, and the air permeating the interstices of the soil may contain as much as 5 per cent. of this gas, some of which enters the roots of plants dissolved in the water of the transpiration-

current; it has, however, been shown by Cailletet and Moll's experiments that the supply of carbon dioxide obtained in this manner is insufficient for the requirements of ordinary green plants.

Extended and carefully conducted experiments have proved beyond doubt that the chief food material utilised by green plants for their carbon supply is the carbon dioxide of the air, and that this gas is absorbed by the leaves. Moreover, it is through the stomata that the gas enters into the tissues, and only in slight degree, if at all, through the cuticle of the epidermal cells.

Mr. Percival is Professor of Botany in the South-Eastern Agricultural College, Wye, and is known as a diligent investigator. His work is up to date, and has been accepted as a text book at the Cambridge University; therefore, a better "opinion" than his can scarcely be had on the subject on which Mr. Mills particularly desires information. The other portion of his communication is left for the consideration of Mr. Abbey and other scientific readers, who may be interested in the propositions advanced.]

* "Agricultural Botany," by John Percival, M.A., F.L.S. (Duckworth and Co., Henrietta Street, Covent Garden.)



FIG. 92.—TOMATO FAIRFIELD.

Grove Hall, Notts.

GIVEN a place of historic interest like Grove Hall, the home of the Harcourt Vernons, standing high up, and overlooking the Dukeries (as that part of Sherwood Forest where stand, in almost regal splendour, the homes of the Duke of Newcastle at Clumber, the Duke of Portland at Welbeck, and once the Duke of Kingston, now Earl Manvers, at Thoresby), a place of sweet sylvan surroundings, of magnificent and venerable old trees, of beautiful grassy glades, of onward, outward, far-away sights, of alluring, rounded, wooded headlands all round the horizon, the minster of Lincoln being a conspicuous, if distant, object on the eastern side on a clear day, and you have something worth going to see. Given also a thorough gardener like Mr. Welch, who has been on the place, boy and man, for forty years let us say; a genial, courteous man of animated speech, physically vigorous, tremendously energetic, an insatiable worker, a skilled inventor with a determined will to carry his inventions out, and you are sure of a hearty welcome and something worth seeing—but, given also as a visitor, a quiet, dreamy, meditative man who wanted nothing better than to sit down and silently look around and think, and let the sweet influences of the place, with its divine and refreshing air, soak into him, but who was led about here and there to see first one gardening triumph after another; who saw, and admired, and wondered at all that he saw, and who, as he walked about, made notes in his note-book—and you may be quite sure that his note-book is a mass of hieroglyphics, and his head full of kaleidoscopic pictures of wonder and beauty, which he enjoys himself to his complete happiness and satisfaction, but which, either notes or pictures, are not easily translatable on paper. That is how the matter stands. We will get to Grove Hall as quickly as we can, however, looking out at things by the way as we go. Mr. Welch is a brother gardener of many years' standing; I had long promised to visit him, but put it off. At last he fastened me down to a date. On getting out at Retford station I found a trap waiting to take me the three or four miles to Grove, passing through the town of Retford on our way. A smiling welcome awaited us from Mr. Welch at his neat and pleasant home, and we had to partake of his hospitality as a first and necessary thing. Then the work began, and it was work.

Young Heads on Old Shoulders.

To begin we inspected an old orchard, and in it the gardening interests rose to excitement. For why? Well, this old orchard had been one of the old school with the tree tops in the sky and the trunks and bottom branches naked and bare; the fruit, what fruit did come, small and insignificant. This fretted my friend, and at last he got consent to head them down and regraft them. Not by any means a small concession this, as the dislike to have an old tree cut down on any part of the estate is very strong with most members of old families. We are very conservative in the country. Mr. Welch had no sooner got his permission than he set to work and headed the whole lot down, having previously prepared grafts of the special varieties he desired to propagate, such as Newton Wonder, Bramley's Seedling, Cornish Aromatic, and such like. The trees were at least a hundred years old, having boles, as a rule, 10 or 12 inches in diameter. In cutting them off Mr. Welch cut with a slight slope to the north, thus insuring the rains passing off and preventing rot or fungus settling and doing damage, and in the putting in of the grafts he carried out the plan advocated and figured some time ago in the Journal by Mr. Merryweather of Southwell, that is to say, he put the grafts in only about an inch apart all round the crown of the stock, so that on an average there were about twenty scions in each crown. The reason for doing this is that the stock may find an outlet for the sap stores it contains, and of which it has been deprived by the cutting off of its head. The plan evidently works well, for there was not a failure in the whole lot of stocks operated upon, though something must be said for the skill of the operator, who all his life has been an enthusiastic budder and grafter, and he makes a particular clay of his own to finish them off with, never using wax.

Cox's Orange Pippin in Excelsis.

Then we came upon a sight of Cox's Orange Pippin Apple such as I certainly had never seen before as to crop, size of fruit, and colouring. They formed a long row of bushes on the French Paradise stock, supplied a few years ago by Messrs. Pearson & Sons. Every branch of every bush had its complement of the finest and highest coloured Cox's it has ever been my privilege to see. Three or four things had evidently contributed to such a high state of perfection; first the soil, which is an ideal fruit-growing soil, a brown heavy loam; next the dwarfing nature of the stock; next open pruning and thinning of the fruit; and last, what must be a strong factor in the fruit productions all over the place, the purity and rarity of the air from the elevated position. Behind the Cox's was a row of fourteen Bramley's Seedlings, young trees just coming to their best, and showing well now and what they would do in the coming years. Open pruning of these, as well as all other orchard trees, is a great point in Mr. Welch's fruit management, and it is a strong item in his success undoubtedly, though climate and elevated position must be recognised, for all over, both in the open orchards, and on walls and amongst bushes and Strawberries, there was not, nor had been, one single failure of any one crop. Apples, Plums,

and Pears in the orchards were heavy crops, so also Pears on walls, whilst Apricots (the heaviest crop possible), Peaches, Nectarines, and dessert Plums, as Green Gage and Transparent Gage, were full with overflowing crops, and were being retarded for a prolonged use at table by being covered with Nottingham brown netting, which kept off the fierce rays of the sun and the damaging action of wind and rain, and yet allowed the vivifying influence of the air to fill them with their respective characteristic good qualities of high colour, sweet flesh, and exquisite flavour (I sampled a lot, so I know). But time flies; we must get away from the fruit garden, as my space is becoming filled, though I have one or two notes on fruit culture which will have to be brought out on some future occasion: they are so practical.

The Flower Gardens—Beauty and Utility.

The flower gardening at Grove may be divided into two portions—the decorative near the hall, and the utility in the kitchen garden and other borders outside. The decorative flower gardening near the mansion is not extensive, but it is in just the right proportion, and just of the right character. There is such a weight of heavy green colour from trees, shrubberies, lawns, and park that strong simple colours in large masses are necessary to give character to the scene, and the nowadays much despised scarlet "Geranium" is precisely the plant and colour to achieve this object. Henry Jacoby "Geranium" is a great favourite, and some bold beds were well filled by it; this was the chief tone colour, and it was relieved by pink "Geraniums," blue Lobelia, a lovely small white Alyssum, yellow Lamium, Golden Feather, Iresine-Lindeni, and the usual order of summer bedders. The utility flower gardening, where the supply of cut flowers comes from, is very largely on one long border filled from end to end with all the useful stock for cutting, from the best of the herbaceous plants mingled here and there with Asters and Stocks; and Roses are here, there, and everywhere, the Teas being in the largest abundance, and of the best and newest varieties. The soil at Grove is admirable for the Brier, and so Mr. Welch plants a yearly lot of stocks and buds, the best of the old varieties and the cream of the newer ones, which he gets in by either buying plants or huds. By this means he keeps himself up to date, and satisfies the Rose loving tastes of his employers. Dahlias of the Cactus section are extensively grown for cutting purposes; all other varieties are discarded. I took down a few names of those in favour, such as Wm. Cuthbertson, Dr. Nansen, Countess of Lonsdale, Daffodil, Chas. Woodbridge, Matchless, Primrose Dame, Keynes' White, Magnificent, Exquisite, and Harry Stredwick.

The Vegetable Department.

The kitchen garden must not be passed over, because in it were all the best vegetable crops in the highest state of cultivation, the result of a good holding soil, well manured and well worked, and every crop of the highest character, both as to selection and management, not the least being a quarter devoted to the noted Grove White and Red Celery. This Celery was raised here and kept very select. It is yearly seeded, the Red one year, the White another, and the seed plants are selected with the greatest care, and the rows and rows of it then being earthed up were as true, every plant in every row, as if they had been all struck out of one mould. Intelligent management was written in bold characters all over the kitchen garden as elsewhere.

Plants and Fruits.

By the time we had gone through this department there was only opportunity to make a hasty survey of other things, as the "Mums," a fine stock of bush plants for conservatory work and cutting, with a few of the tall bud-selected Japanese; then through the houses—a house of Tomatoes finishing its crop, which must have been a very heavy one judging from the fruits remaining, the varieties grown being only two, Chemin Rouge as a red one, and Blenheim Orange as a golden one; two houses of Grapes, black and white, in table perfection as to both size, colour, and finish; then through the plant houses, stove and greenhouse, filled with grand stuff for table and house decoration—Palms, Crotons, Dracenas, Aspidistras, Ferns, Eulalia japonica (very well done), and other good things; then a cup of tea with my host and his kindly family, and good-bye to them and Grove, he driving me back to the station at Retford, pointing out on the way some of the salient features of the very lovely country of ancient Sherwood. Thus ended my visit to Grove Hall, everything connected therewith being a daily joy to me, and the mental pictures of it are ineffaceable in my memory, and in my dreamy meditative way I go over them again and again; but alas! I feel how poor and ineffective these notes are, and how very much better I ought to have made them.—N. H. P.

Flowers as Food—In a recent issue the "Spectator" pleads for a return to the fashions of our forefathers in the matter of syrups and cordials and different floral food stuffs. For example, Roses were apparently a favourite article of food in the time of our great-grandmothers, for we find a recipe in an old time cookery book for making a "conserve of Roses boiled," and in this great stress is laid upon removing all the white; in the directions for pudding-making, also, rosewater is a frequent flavouring. Next to Roses the most popular of flowers seem to have been the Cowslip.

NOTES & NOTICES

Recent Weather in London—For the time of the year the weather in the metropolis during the past week has been remarkably genial. The sun has shone every day with brilliancy and considerable power; the nights and mornings have been cool but distinctly warmer than in the previous week. Wednesday opened much cooler.

Royal Horticultural Society—The Sherwood Silver Cup.—This cup, value £10 10s., will be offered for open competition at the Drill Hall meeting on November 6th, 1900, for fifty-four dishes of fruit (six fruits to a dish) grown by the exhibitor in the open air, namely:—Eighteen varieties of cooking Apples, twelve varieties of dessert Apples, eighteen varieties of dessert Pears, six varieties of cooking Pears. The competition will be subject to all the usual conditions of the society. For the distinction between cooking and dessert varieties see R.H.S. list, on page 39 of the Crystal Palace Fruit Show schedule. Notice of intention to compete must be sent to the Secretary, R.H.S. Office, 117, Victoria Street, Westminster, not later than the last day of October. First prize, Sherwood silver cup; second prize, Hogg medal and £3; third prize, silver Knightian medal and £2.—W. WILKS, *Secretary*.

Death of the Marquis of Bute.—We have to record the death, at the age of fifty-three, of the Marquis of Bute, whose interest in horticulture was peculiarly wide. The late marquis, as is well known, took a keen interest in the question of Vine culture in this country, and in 1875 he tried the experiment of planting a vineyard in the open air at Castle Coch, on his South Wales estates. The first attempt to manufacture wine from the Grapes grown was in 1877, when forty gallons were obtained. The first really good crop of Grapes, however, was in 1881, when the whole of the vintage obtained, with the exception of a few dozens kept for private consumption, was sold at 60s. per dozen to an enterprising wine merchant in Cardiff. Some of this same wine, when offered by public auction two years later, realised 115s. per dozen. So successful was the venture that in 1887 a second vineyard was planted at Swanbridge, seven miles from Cardiff, and two years later enormous crops of Grapes were raised at both vineyards, the sum obtained for the wine, about £3,000, recouping all the expenses incurred during eighteen years' experiments. The deceased nobleman will be missed in the commercial as well as the horticultural world.

Preston Horticultural Society.—A somewhat new venture on the part of the committee of this go-ahead society was a lecture on "Chemical Manures in Fruit and Kitchen Garden Culture," by Mr. F. W. Shrivell, of Thompson's Farm, Tonbridge, Kent. Mr. J. B. Pratt, J.P., presided, and introduced the lecturer. Mr. Shrivell said that land was divided into sections, one being dressed with heavy applications of manure, a second with a light dressing, a third with chemicals only, and the other three with a light dressing of manure and varying quantities of chemicals. The results proved that the latter, according to the nature of the produce, gave the best results. He also explained that it was really necessary to use chemicals, as by so doing you were putting into the ground what the produce in growing had taken therefrom. He was glad to say that England in this respect was six years in advance of several other countries, as France and the United States.

Croydon Horticultural Society.—One of the most successful meetings yet held took place at the society's room on Tuesday evening. Mr. W. J. Simpson was in the chair, Mr. M. E. Mills in the vice chair, and upwards of forty members were present. The chairman introduced Mr. Scaplehorn, a member of the Woking Horticultural Society, who gave an interesting and instructive paper on "Hardy Flowers." The lecturer dealt most ably with the various classes of hardy flowers, pointing out their beauty at various seasons of the year, the treatment, cultivation, and propagation; also the most suitable kinds for giving effect in the garden, as cut flowers, and for exhibition. A very interesting discussion followed, in which many of the members took part. A hearty and unanimous vote of thanks was passed. The meeting was brightened by a fine display of hardy flowers by members and friends. The chairman announced that the next meeting would be held on the 16th October; subject, "Chrysanthemums," by Mr. M. E. Mills.

Gardening Appointments.—Mr. W. Mabbott, gardener to E. P. Martin, Esq., Gwernllwyn House, Dowlais, Glamorgan, has been appointed in a similar capacity to G. E. Jarvis, Esq., Doddington Hall, Lincoln, in succession to Mr. Foster, who goes to Henham. Mr. Mabbott is succeeded at Gwernllwyn House by his brother, Mr. T. Mabbott.

Bournemouth Chrysanthemum Society.—The fourteenth annual Chrysanthemum Show of the Bournemouth and District Society is to take place in the Winter Gardens of the Hotel Mont Doré on November 7th and 8th, and the customary excellent display is anticipated. The secretary is Mr. James Spong, The Gardens, Lindisfarne. There are upwards of six dozen classes for seasonable products as well as Chrysanthemums, and some are open to all comers while others are limited by certain necessary restrictions.

Berkshire County Council.—Like the majority of the County Councils, Berkshire allots a certain sum for instruction in horticulture, though the subject does not appear so popular as it ought to be. A course given at Wallingford was successful; a special series of lectures was also given to prepare pupils for the examination of the Royal Horticultural Society, and eight eventually sat. It is satisfactory to note that the amount voted by the Technical Education Committee for instruction in gardening during the session 1900 and 1901 is materially greater than that for the corresponding period of the past year.

Lady Warwick Agricultural Association for Women.—The Duke of Sutherland has kindly consented that the second annual meeting of this association shall be held at Stafford House, St. James's, S.W., on Friday, October 12th, at 3.30, when the Countess of Warwick will preside. The following speakers have volunteered to address the meeting on the openings for women in the lighter branches of agriculture: Lord Kenyon, Mr. J. C. Medd, Miss Humphreys, Mr. T. W. Sanders, Mr. W. Iggulden, and others. Admission by card only.

The County Council's Annual Chrysanthemum Shows.—At the parks of the London County Council these shows will be opened on the following dates: Southwark Park, 11th inst.; Battersea Park and Finsbury Park, 13th inst.; Victoria Park, 17th inst.; and Waterlow Park, 20th inst. The annual distribution of the surplus plants at the parks will take place as follows: Battersea Park, 24th inst.; Brockwell Park, 16th inst.; Dulwich Park, 17th inst.; Finsbury Park, 18th inst.; Kennington Park, 23rd inst.; Myatt's Fields, 17th inst.; Peckham Rye Park, 17th inst.; Ravenscourt Park, 19th inst.; Southwark Park, 11th inst.; Victoria Embankment Gardens, 17th inst.; Victoria Park, 17th inst.; and Waterlow Park, 24th inst.

Brixton, Streatham, and Clapham Horticultural Society.—At the autumnal general meeting of this society, after discussing the project for surrendering the Chiswick garden by the R.H.S., the members present passed the following resolution unanimously—viz., "That in the opinion of this general meeting the abandonment of the garden at Chiswick would have a prejudicial effect upon horticulture in the suburbs of London and other large towns, by discouraging owners of gardens from sanctioning the outlay necessary to maintain and increase the fertility of the soil so as to adapt it for the continuous production of first-class fruits, vegetables, and flowers; and, further, that in the opinion of this meeting the Council of the R.H.S. would be rendering a great service to horticulture if they took steps to restore the fertility of the garden at Chiswick by judicious expenditure and skilful treatment, so that it might become an object lesson to suburban gardeners throughout the country."

Birmingham Gardeners' Association.—The initial meeting of the autumn session was held on Monday night, the 8th inst., in anticipation of listening to the presidential address "On the Decorative Use of Flowers Considered Historically," by Professor W. Hillhouse, but who, unfortunately, was precluded from attending owing to a severe cold. The disappointment, however, was partly atoned for by an extensive display of Cactus, Pompon, and decorative Dahlias, by Mr. John Pope and Mr. John Child, and also a collection of hardy border flowers by Mr. W. B. Child, of Acocks' Green, and a box of St. Joseph Strawberries by Mr. W. Miller, Berkswell Nursery. Mr. John Pope opened a discussion on the Dahlia in a graphic and instructive manner, and which was participated in by the Messrs. Child, Walter Jones (the chairman), W. Gardiner, C. R. Bick, C. H. Herbert, and W. Spinks. Mr. Pope also exhibited specimens of a Russian Apple grown by himself under the euphonious name of Antonowska Kaninitchka, and which proved to be of fair flavour and agreeable perfume; medium.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Reading and District Gardeners' Mutual Improvement Association.—The winter session of this society comprises six meetings, and extends from October 8th to December 17th, presenting in all an attractive programme. The subjects for discussion, with names of their introducers, are "Annuals," by Mr. G. Stanton; "Fruit Trees in Pots," Mr. J. Hudson; "Ferns," by Mr. C. P. Cretchley; "Wall Fruit Trees," by Mr. T. Turton; and "Vegetable Culture," by Mr. J. Gibson. On December 3rd the evening will be devoted to impromptu speaking upon decidedly popular topics. An even more attractive spring session is promised, of which we trust to speak later at the New Year. In thus creating a centre of horticultural light and leading, Reading is doing good work for the country, for only upon energetic local effort can a really prosperous national life be founded.

Liverpool Amateur Gardeners.—At the last meeting of this society the display of exhibits in flowers, fruit, and vegetables was an advance upon its predecessors. The president's prize for cut flowers was won by Mrs. Morris, and for the same gentleman's prize for a plant in bloom Mr. Dodd came out victorious with a handsome plant of *Oncidium varicosum* Rogersi, a certificate being also awarded. For cut blooms of Chrysanthemums Mr. Dale was well in front, Mr. Robins staged the best table plant. The number of plants and cut flowers shown for points was greatly in advance. A whole table was requisitioned for the fruit, and splendid samples were brought, the competition for six dishes of culinary Apples bringing out nine exhibits. The first and second prizes were equally divided between Messrs. Dobson and Hoskyn for Warner's King. Mr. D. W. Cangle was a good second. For six dessert Apples Miss Francis headed the list, Mr. Tinsley following, and excellent Ribston Pippins from Mr. R. Muir won the class for three dessert. Pears, any variety, were beautifully shown by Mr. A. W. Ardran, who staged Louise Bonne de Jersey; and Miss Francis, Williams' Bon Chrétien. A certificate was worthily granted to Mr. Muir of the Hatton Street Fire Station for three choice bunches of Black Hamburg Grapes grown in the heart of the city.

Isle of Wight.—The Isle of Wight Horticultural Improvement Association held its seventh annual exhibition of fruit and honey on Thursday last in the Medina Hall, Newport. The opening ceremony was performed in the presence of a large assembly by Miss Seely, daughter of the president (Sir Chas. Seely, Bart., J.P.). Dr. J. Groves, B.A., J.P., chairman of the association, introduced Miss Seely to the audience. The standard of excellence of the show was scarcely so high as last year, but the entries were more numerous and the competition keener. For the largest and best collection of open air fruit in distinct varieties there were nine entries; the trophy, the association silver-gilt medal, was won by Mr. W. Taylor, gardener to Admiral Denison, Woodside, Wootton, with a collection of ninety dishes of fruit, and in the class of twenty-four dishes of fruit in eighteen varieties the Cheal silver medal went to Mr. John Hygate, gardener to S. P. Mumford, Esq., The Briary, Cowes. For twelve dishes of fruit in nine varieties, open to amateurs only, Mr. George Williams of Gatcombe took the Cheal silver medal. The Toogood bronze medal for six dishes of fruit, open to cottagers only, was won by Mr. Fred Midlane, Newport; while the Toogood silver medal for the best dish of fruit in the show went to T. Gibbs, Esq., C.A., a member of the Technical Education Committee of the County Council, and an ardent horticulturist and educationalist, the exhibit being a splendid dish of Emperor Alexander Apple, highly coloured. The association's silver medal for the best honey exhibit was won by Mr. Edgar Marsh of Shide. Amongst the non-competitive exhibits Mr. T. Brown was awarded a F.C.C. for four bunches of Grapes; Mr. W. Matthews was awarded a cultural certificate for a dish of Pears Grosse Calabasse. Mr. I. W. Pitman was also awarded a cultural certificate for a dish of Apples Warner's King. The Rev. R. L. Morris of Brook was awarded an association certificate for an exhibit of honey, and Mr. F. D. Hills received a similar award for an exhibit of bee appliances. The plants which adorned the tables and platform were lent by Mr. R. R. Pittis, J.P. (gardener, Mr. W. E. Wickens), and Mr. H. Webber. Messrs. J. Cheal & Sons of Crawley received a F.C.C. for a magnificent collection of fruit. The fruit was judged by Mr. A. Wallis, fruit foreman to Messrs. Cheal, and the honey by the Rev. R. L. Morris.

Wallasey Amateur Gardeners' Association.—The monthly meeting was held in the Concert Hall on Wednesday evening, and the exhibits were most satisfactory. Messrs. Dale and Jowett won in classes for Chrysanthemums and Michaelmas Daisies, and each prize-winner made a short impromptu speech on the methods of culture adopted. Mr. Burston gave useful advice respecting Chrysanthemums, preferring a cold frame in which to root them, as they resented coddling. The president warmly thanked Mr. Burston for his timely remarks, and said that although they had no financial gain from their Chrysanthemum show, they felt that it was doing a good work amongst gardeners and others in the district. Mr. Burston then dealt with *Calceolaria* culture in a capital manner.

Sussex Weather.—The total rainfall at Abbot's Leigh, Haywards Heath, for September was 0.97 inch, being 1.08 inch below the average. The heaviest fall was 0.47 inch on the 27th; rain fell on seven days. Total rainfall for the nine months 18.09 inches, which is 2.18 inches below the average. The maximum temperature was 73° on the 7th, the minimum 39° on the 22nd; mean maximum 68.28°, mean minimum 46.02°; mean temperature 57.15°, a little above the average. Since the 26th we have had some much needed rain.—R. I.

September Weather at Dowlais.—Rainfall 1.90 inch, which fell on eight days. Greatest fall 0.60 inch on the 26th. For the same period 1899 3.82 inches on twenty days. Temperatures: Mean in the sun 77.5°; highest reading 106° on the 12th; mean maximum 61.56°; highest reading 70° on the 8th; mean minimum 42.4°; lowest reading 31° on the 30th; frost on two occasions. There were five sunless days. A very favourable month for outdoor operations. October has started very wet, as we have had rain every day, with 2.00 inches on the 4th and 1.25 inch on the 5th.—WM. MABBOTT.

September Weather at Hodstock Priory, Worksop.—Mean temperature, 56.2°; maximum in the screen, 72.6 on the 12th; minimum in the screen, 36.6 on the 20th; minimum on the grass, 28.2 on the 25th. Two slight frosts on the grass. Sunshine 119 hours, or 32 per cent. of possible duration, which is about the average for September. Rainfall, 1.28 inch. Difference from average - 0.66. Rain fell on ten days; maximum fall, 0.95 on the 16th. Rain from January 1st, 19.55 inches. Difference from average + 1.24. A mild month, with very little rain except a heavy thunderstorm on the 16th.—J. MALLENDER.

September Weather at Belvoir Castle, Grantham.—The wind was in a westerly direction twenty-two days. The total rainfall was 0.48 inch, this fell on seven days, and is 1.84 inch below the average for the month. The greatest daily fall was 0.20 inch on the 30th. Barometer (corrected and reduced): highest reading, 30.536 inches on the 12th, at 9 A.M.; lowest reading, 29.519 inches on the 27th, at 9 P.M. Thermometers: highest in the shade, 71° on the 12th and 22nd; lowest, 35° on the 20th. Mean of daily maxima, 65.13°; mean of daily minima, 47.53°. Mean temperature of the month, 56.33°; lowest on the grass, 33° on the 20th; highest in the sun, 124° on the 5th. Mean temperature of the earth at 3 feet, 56.20°. Total sunshine 169 hours 35 minutes; this is 15 hours 5 minutes above the average for the month. There were no sunless days.—W. H. DIVERS.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
September and October.										
Sunday.. 30	S.S.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday.. 1	W.S.W.	60.4	53.8	61.9	41.3	0.14	55.7	57.9	57.9	31.4
Tuesday 2	W.S.W.	54.4	50.5	62.0	33.8	—	55.3	57.5	57.8	30.9
Wed'sday 3	W.N.W.	58.9	54.6	64.3	45.8	—	55.1	57.2	57.5	35.8
Thursday 4	E.S.E.	49.6	47.8	58.3	42.5	—	54.5	56.9	57.5	30.5
Friday .. 5	S.S.W.	56.6	52.3	61.9	34.5	0.34	52.5	56.5	57.3	25.0
Saturday 6	S.S.W.	57.4	52.0	60.7	49.2	0.08	53.3	56.0	57.2	40.5
		60.8	56.0	65.4	53.0	—	54.0	55.8	57.0	45.6
MEANS ..		56.9	52.4	62.1	43.1	Total 0.56	54.3	56.8	57.5	34.2

A week of rather dull weather, with cold wind and rain on three days. The grass thermometer registered 7° of frost on the 3rd inst.



Rose Sombreuil.

THERE are some hardy old Roses that should not be lost sight of, and one of these is Sombreuil. Although not by any means an exhibition variety, it is worth growing for its pure white flowers in autumn. Vigorous in growth, perfectly hardy, and mildew proof, it deserves a place in every garden. I have been cutting lovely blooms to-day (October 1st), hence my note.—J. T. STRANGE, *Aldermaston*.

The Hanged Man.

PERHAPS there are some readers of the Journal who may not be aware that the Orchid mentioned on page 272 is a British plant. *Aceras anthropophora* is not so rare a plant as several of our native Orchids; in the eighth edition of the London Catalogue it is recorded from seventeen counties. I accidentally came across this interesting Orchid several years since at a village named Barnack in Northants. Near this village are old stone quarries, called by the people in the neighbourhood "hills and holes," and it is said the stones for building the cathedrals at Peterborough and Ely were obtained from these quarries. I was in search of *Anemone pulsatilla*, which grew very freely here at that time. While looking for this plant I also found the "Hanged Man." It is rather a small plant, growing about 6 or 8 inches high, with a tuberous root, and dull yellowish green flowers. Two other limestone plants were collected at the same time, *Astragalus hypoglottis* and *Hippocrepis comosa*; both are pretty little creeping plants, the former having purple Pea-like flowers, and the latter yellow flowers, resembling the common Lotus or Bird's-foot Trefoil.—J. S. UPEx.

Exhibition Groups of Plants Arranged for Effect.

BEAUTIFUL and attractive as are the groups of miscellaneous plants arranged for effect at some of our leading exhibitions, it has occurred to me that by way of variety and contrast groups composed of Ferns, Selaginellas, and Lycopodiums would prove a pleasing variety, and call for much skill in setting out. For instance, as a central plant one of the Tree Ferns might be introduced, supplemented with other strong-growing Ferns around its base and at the corners of the design, according to taste in arrangement; water or rockery would also add to the effect. I know of more than one garden whose exotic Ferns are a feature, and sufficiently abundant to make excellent designs. As the time is approaching for the formulating of schedules for next year's shows, I have deemed it opportune, through the medium of the Journal, to recommend the idea in question to committees of horticultural societies.—G.

[Our correspondent is apparently unaware that groups of Ferns have been a feature of the Brighton summer shows for some time; they are very beautiful indeed when the plants are judiciously selected and arranged.]

Colour of Fruit.

IN reference to this subject I should like to suggest that there is not so much vagueness in the situation as would appear from the observations made by Mr. Bunyard and Mr. Raillem in your recent issues. In consequence of heat and drought raising the temperature of the soil so many degrees over the normal, nitrification is greatly promoted. The micro-organisms are the sole agents employed by Nature in oxidising—viz., breaking down into simpler forms all the organic *débris* in the world until reduced to such substances as nitrates, ammonia, carbonic acid and water, which can be assimilated by plants. Nitrates promote leaf development and sappy growth of wood, and retard maturation of fruit. The advent of rain re-dresses the balance, cools the soil, and indirectly colours the fruit. The Rothamstead experiments and analyses have proved that the soil is richest in nitrates after a period of smallest percolation from July to September.

The fruit shown at the Crystal Palace in 1898 was exceptionally green as regards Apples. Rain began to fall about the opening of the exhibition, when all the fruit had been gathered. Last year rain fell abundantly a month earlier; the result was a show rich in colour. This year rain fell in August, apparently somewhat too early, and September was remarkably dry and neutralised the August rains, so that colour in last week's show was again absent on the whole.—H. H. RASCHEN, *Sidcup*

Vegetable Culture.

I HAVE recently been invited by a gentleman who wishes one of his sons to become thoroughly conversant in a practical way with vegetable culture preparatory to his practising on English lines in the West Indies, where there is a temperate climate, to recommend him some place where the needful information can be acquired. I feel I have no other course open than to advise that the lad be placed, if such can be found, in some good private garden where vegetable culture is, if not a specialty, at least specially good, and where not only is the highest form of culture seen, but where also the forcing, blanching, or other needful treatment of such products are well practised.

Naturally one feels humiliated in having to reply to a questioner that we have no national garden in which what is thus sought for can be found. The trials as conducted at Chiswick are very well, but they give or convey but a very limited amount of practice or information as compared with what is seen in a good private vegetable garden, where all descriptions of vegetables are constantly grown, and a regular supply of these products is maintained. Whenever we do have so needful an element in horticulture as a great national practice garden, of course we must have the culture of fruits and vegetables presented in the completest and most comprehensive sense. Had we such a garden now my reply to the gentleman in question would have been a simple one. As it is I have to repeat that there is no place for obtaining the needful tuition like that of a good private garden.—A. D.

Pear Beurré Superfin.

HEREWITH I send you two fruits of this fine October Pear, to show how dissimilar the skins are in colour. There are several trees of it growing in the gardens here, some trained on the walls and some in the open quarters, one trained as a dwarf bush on the Quince stock, and one or two as pyramids on the free stock. The skin of the fruit of those worked on the free stock is a pale green, smooth, with a few russety spots on the sunny side, while the fruits of the one on the Quince stock are a russety cinnamon colour. There is no doubting the variety. The fruits are the same in shape, fleshy at the base of the stalk, and united to the fruit by fleshy folds. The foliage of the trees is the same in both cases, but the growth of those worked on the free stock is much more vigorous, and the trees more pyramidal in form, than the one worked on the Quince. I have observed the peculiarity in the colour of the skin of this variety for several years, and I remember one writer taking notice of it in one of the gardening papers (I am not sure which) a year ago, but there was no cause given or suggested why some of the trees bore russety brown fruits and others smooth pale green fruits. Are there two varieties of Beurré Superfin, or is it the stock only that causes the difference?—A. PETTIGREW, *Cardiff*.

[Both the fruits sent are typical examples of this excellent Pear. We have not before seen a similar instance of stock influence. The fruit from the tree on the Pear stock is ripe, the one supported by the Quince roots still quite hard, and the colour of both as described by Mr. Pettigrew. We have known the ripening somewhat expedited by the Quince and retarded by the Pear stock, but in the examples before us the reverse is strikingly manifested. It would be rather interesting to establish grafts from each of these trees on the other and note the results. At present the trees afford, perhaps, a welcome succession of delicious Pears.]

A Chat about Pears.

AT this season, when Pears are being ingathered, some being used and others carefully stored for the future months, comments on their character and varying merits are interesting. Some such have already appeared from the pens of "W. G." and Messrs. Raschen and Atkins. A remark from the latter, bearing on the qualities of Williams' Bon Chrétien, Beurré d'Amanlis and Madame Treyve, strikes one as being curious, and shows clearly how both tastes of consumers as well as the character of Pears vary. Williams' and Beurré Superfin, Mr. Atkins says, have nothing of the finest quality in them. If these have none, where and to what other sorts can your correspondent look for quality in their respective seasons? My experience of Williams' is that it spoils the palate for others that follow it, and in its season others are not sought for while there is a supply of sound ones remaining. Fondante d'Automne and Beurré d'Amanlis are two successional Pears that are usually accepted as supplying the connecting link between the summer and winter fruits. The French Duchesse d'Angoulême usually comes in as soon as Williams' are over, and supply those who have to depend on the markets with choice and high-priced fruit. The lists given by Mr. Atkins, and supplemented by Mr. Raschen, cover most of the best for the whole season's use. Beurré Capiaumont is a Pear of which I have never held a very favourable opinion.

Easter Beurré is another Pear of doubtful quality taken from old trees, and the large imported fruits arriving at Christmas are not always conspicuous for flavour. For October shooting parties Doyenné Boussoch is a fine Pear; quality does not, perhaps, stand out as its most conspicuous merit, but it has a handsome shape, large size, and pretty

skin. Did its quality equal its appearance then it certainly would not have a rival in its season. Quality in Pears must have a first and just claim, but size and appearance count for very much when in party times pretty decorations, and bold dishes of fruit, are the host's ambition. Trout or Forelle is a fruit that is not very commonly grown, and as I remember it, the flavour is one which soon tires the palate. In appearance it is very striking, its skin having trout-like spots set evenly over its smooth green and crimson flushed skin.

"W. G." says, "It is not altogether surprising that there should exist such a diversity of opinion on the merits of Pears, when it is remembered no fruit is more influenced by soil and position. This is quite true, and there are other influences that join in the issue, and that is the character of the tree, its age, and the weather. Fruits from old and deep-rooted trees do not compare with those obtained from young and surface rooting specimens, whether they be grown on the wall, as pyramids, as standards, or espalier-trained. In the matter of quality and size of the fruit much depends on the stock, and great improvements may often be gained by re-grafting. Very old trees do not readily respond to this treatment if cut hard back. By grafting I have converted many trees that were quite useless into free bearing and healthy specimens, and it is surprising in dealing with healthy stocks how quickly they are restored to their original state. By not severely heading back, this restoration can be easily effected in three to four years. By grafting a strong-growing sort on to a weaker tree its constitution can be entirely changed for the better. By grafting, too, a free bearer can be changed into a shy one, and by the same means the opposite is brought about. A great advantage is secured in some varieties by double grafting, a fact that is fully admitted by nurserymen, and acted upon by them for the benefit of their clients.—W. S., Wilts.

Grape Black Morocco.

I AM sending you a bunch of Black Morocco for an expression of opinion. The Vine is growing in a house with Black Hamburgh and Madresfield, and is started at Christmas. It always colours well with us, and lasts long after the others are gone in the same house. The bunch enclosed is an average one. It has the character of being a bad setter, and also a difficult one to colour. We tap the rod and draw our hands over the bunches when the Vine is in flower, but do not use the pollen from the other varieties, as they are over. I find it does best by leaving two or three eyes, as very close pruning results in growth but no fruit. The Vine has carried nineteen bunches this season. I ascribe a large part of my success in colouring to the admittance of abundance of air for the benefit of the other varieties in the structure. The Morocco is practically green when the others commence to colour. Our houses have iron and copper sashes, which give no shade, and we find that early in the season, say about April or May, the sun, if allowed full power on it, causes this variety to curl its leaves; to prevent that we put a double net over, which proves sufficient for the purpose. Beyond this the Vine has practically the same treatment as the Black Hamburgh and Madresfield Court.—W. HURLSTONE, *Parkfield Gardens, Hallow, Worcester.*

[We most heartily congratulate Mr. Hurlstone on his success with Black Morocco, and can assure him that if other cultivators were equally successful we should find this variety represented far more frequently than is at present the case. The bunch was of perfect shape, and was composed of large berries, very rich and deep in colour, and having an exceptionally thick skin. The flavour was superb—indeed, we have seldom tasted a Grape that could equal it in this respect. The oval berries were very fleshy, and each of the larger ones contained either three or four stones, and the few and smaller ones one or two stones.]

Referring to Black Morocco in the "Fruit Manual," Dr. Hogg says—"Bunches large, loose, and shouldered. Berries of unequal size; some are large and oval. Skin thick, reddish brown, becoming black when fully ripe; beginning to colour at the apex, and proceeding gradually towards the stalk, where it is generally paler. Flesh firm, sweet, but not highly flavoured until it has hung late in the season, when it is very rich, sprightly, and vinous; the small berries are generally without seeds, and the large ones have rarely more than one. This is a late keeping Grape of the first quality. It is very late, and requires stove heat to ripen it thoroughly. It is perhaps one of the worst to set its fruit, and to secure anything like a crop it is necessary to impregnate the ovaries when the Vine is in bloom by passing the hand occasionally down the bunch. The leaves die bright yellow."

Mr. Hurlstone will thus see that the defects mentioned by the late eminent pomologist are practically absent in his case, especially in relation to looseness of bunch and the size and seeding of the berries. It is a matter for regret with us that we are unable to illustrate the bunch of Black Morocco sent to us, so that our readers could gain a more accurate idea as to its several excellent points.]

In the Vegetable Garden.

Preparing for Winter.

MANY owners of gardens think that when the kitchen garden quarters are cleared of their summer crops it is not necessary to do anything to the ground until it is wanted again for next year's crop. This is certainly the easiest way of gardening, but it is not by any means the best either for the ground or what has to be put in it, nor those that expect anything out of it. Turning over the soil and leaving it as rough on the surface as possible is the first thing we do at this time of the year, as the ground is cleared of any kind of vegetable. The ground is very firm on the surface after most crops have been removed: if left like this during the winter neither frost nor wind, both excellent fertilisers, would ever penetrate beyond the surface. Heavy land especially is greatly benefited by exposure to the atmosphere in winter, and the lightest of soils is sweetened. We do not dig-in any manure now, as much of it would be decayed by cropping time. This is put in when the ground is again dug, immediately before the crop is put in.

Not a weed should be allowed to grow amongst any winter vegetables, especially amongst low-growing crops, such as Spinach, Turnips, Endive and Lettuce, as the more these are sheltered, drawn up, or protected in any way now, the more tender they will be in the colder months to come. Plants are also much more liable to damp and decay when closely surrounded by weeds than when everything is clear about them. One good cleaning now will keep them right for the winter. Weeds look as untidy in the kitchen garden in winter as summer. Those on the ground will grow if left all winter, but if they are cleared away now no more will spring up for some months.

We lifted all our Carrots the other day; it is not wise to leave them in the ground after the end of this month. Clean the soil roughly off them as they are dug up, lay them out thinly in an open shed for a few days to dry, and then store them in a cool shed or cellar, putting layer after layer amongst dry river sand. Beet is stored in the same manner, but when it is lifted the leaves are not cut off close to the crown like the Carrots, but they are twisted off with the hand a few inches from the crown to prevent bleeding. When cut close they lose much of their juice. Parsnips we leave in the ground all winter, only lifting a few when frost threatens. Salsafy is treated in the same way. Onions have been under cover for some time; most of them are strung and hung up in a shed. This is the best way of keeping them.

Young Cauliflower plants for early spring planting are dibbed closely together in a two-light frame. The lights are never put on unless in a continuance of rain or frost. Sometimes we never cover them with glass at all, but put a hurdle over the frame in hard weather, and cover it with dry bracken. We not only use it for frames, but spread it lightly over Lettuce, Endive, and such-like things when frost occurs, and find it answer capitally. Small Lettuce, to stand the winter and plant out for the early spring supply, should never be protected except when it is actually necessary. Ours remain in the bed in a south border in which they were sown until they are finally planted.

Care should be taken not to over-earth Celery; always leave the centre above the soil, or the centre heart may decay in the damp days in winter. In the time of snow or frost bracken is an effectual covering for Celery. Begin blanching Endive some weeks before it is wanted. In dry weather it is a good plan to tie the whole of the leaves up in a bundle at the top. In wet weather the centre often decays when tied up. Previous to the middle of October we tie them up; after that time we lay thin deal strips over each row, and blanch it in this way.

As soon as Asparagus stems begin to wither they should all be cut off, the bed cleared of weeds, and then covered over to the depth of 2 or 3 inches with rich manure. If wanted for forcing we should begin lifting the roots for forcing the first week in November, to have a good stock of it in by Christmas.

All kinds of winter greens should be gone over every other week, and decayed leaves removed. By breaking and turning a few leaves over the heads of Broccoli when they are beginning to show through the small centre leaves they keep for several weeks longer than when left exposed to the weather. Cabbages to come in about May next year may yet be planted. Dutch-hoe frequently among those planted some weeks ago, and as soon as they are tall enough draw a little soil to their stems. Globe Artichokes should be cut down to about 1 foot from the ground, then pack some bracken or long litter close round the stems without covering the top. Jerusalem Artichokes we leave in the ground and lift as required.—G.

Tigridias.

THE Tigridia or Tiger flower must not be confounded with the Tiger Lily. The former belongs to the family of the Irids, as its other name of Iris Lily indicates, while the Tiger Lilies, the *Lilium tigrinum* of

Tigridias may be propagated from offsets, and grown in beds in the open ground like other hardy bulbous plants. It is not advisable to move the plants after they have ceased flowering, but the flower stalks should be cut and the foliage allowed to die, then, with suitable enrichment of the soil, the bulbs will grow and flower annually. Some growers, however, lift the bulbs in the autumn with balls of soil, put them into pots and



FIG. 93.—TIGRIDIAS PAVONIA AND CONCHIFLORA.

botanists, are included within the order of Liliaceous plants. The Tigridias are natives of Mexico, and have now formed a feature in English gardens for nearly a century. The leaves are large, clustering round flower stalks of about a foot in height, on which appear flowers as large as the largest Irises, arrayed in the most brilliant combinations of orange, red and yellow. Their magnificence endures when the succession is well maintained from the latter part of May until September, but individually the flowers do not last long.

let them stand in a cold pit until they can be planted in the following year.—F. ROWE.

[In the collection of hardy flowers shown by Messrs. Barr & Sons at the Crystal Palace were some beautiful examples of these brilliant flowers. *T. pavonia*, the peacock flowered variety, and *T. conchiflora*, the shell flowered form, are depicted in the illustration (fig. 93). The former is a combination of red, yellow, and purple, and the latter of dark and light yellow and purple.]



The Autumn Squill (*Scilla autumnalis*).—It may be of interest to some of your readers to know that I recently saw several healthy colonies of this interesting and rare plant near Greenwich. This and *Spiranthes aestivalis*, which I discovered near Chiselhurst, are new additions to the flora of Kent.—A. D. WEBSTER.

Pear Beacon.—The earlier varieties of Pears are not usually of the best quality, and many have a habit of getting woolly and poor in flavour. Beacon, however, is very refreshing and juicy with a slight musky flavour. There is an entire absence of that gritty feeling in the flesh that is so objectionable in many varieties, and is good quite to the core. When fully ripe the thin skin is a bright yellow, slightly marked with russet, and with a reddish suffusion next the sun. There is no cavity at the stem or eye, and it is difficult to say where the former begins, being apparently part of the Pear. The trees are bearing few fruits this season, but it is usually free and of a good style of growth.—R.

Failure of the Currant Crop.—A correspondent states: Prices of Currants are advancing with alarming rapidity, owing to the failure of the crops in Southern Greece and the Ionian Islands rendering the yield very poor, and creating in consequence almost absolute penury among the cultivators and labourers. The normal crop is usually 200,000 tons, but the present maximum yield is only 40,000 tons, which is quite insufficient for general consumption here at home, where between now and Christmas we use ordinarily over 50,000 tons. The choicest grade, called Vestizza, has advanced within the last few days from 75s. to 100s. per cwt., while the best of this class now realises 110s. per cwt. The general condition of the Currant market has reached a sensational stage, and retail consumers will, it is expected, soon have to pay 1s. 6d. per lb. for their Currants.

An American Scale for Fruit Judging.—The Ohio State University has adopted the following scale of points for judging fruits. On Apples they give skin and surface 20 points; keeping quality 15 points; colour, richness, flavour, texture, and cooking quality 10 points each; shape, size, and core with 5 points each. For Grapes the flavour is thought of most value, and this is allowed 15 points, while size of bunch, size and uniformity of berry, skin with bloom, richness, texture of pulp, seeds and keeping quality are given 10 points each, and the form of bunch, adherence to stem and colour have but 5 points each. In Tomatoes the texture or solidity ranks first with 25 points, and shape next with 15 points, while size, colour, skin or surface, flavour, seeds, and cooking quality have 10 points. A fruit that is defective in any one particular is so much below the 100 points which are supposed to be absolute perfection.

Notes on Pines.—Plants now showing fruit will supply the finest ornament of the dessert when fruit is scarce and dear. Maintain a temperature of 70° at night, 75° artificially by day, up to 85° or 90° with sun, closing at 85°, sprinkling the paths when the surfaces become dry, and occasionally dewing the plants on fine afternoons. Keep the bottom heat steady at 85° to 90°. Examine the plants once a week for water, and if any require it afford a copious supply of clear liquid manure at about the same temperature as the beds. Plants to fruit early are of great importance, but there is not always a certainty of their throwing up fruit unless they are given a period of comparative rest after making good growth. Queens are the best for this purpose; the plants intended to show fruit early in the year should be kept in a temperature of about 65° in the daytime by artificial means, 60° at night, ventilating at 70°, allowing the bottom heat to fall to 70°. Water the plants when necessary. All young plants should now be arranged so as to derive the fullest benefit from light and air. As the sun diminishes in power a corresponding diminution of temperature must take place at night until it reaches the winter standard of 55° to 60° at night and 65° in the daytime. Ventilate freely whenever conditions are favourable, paying particular attention to watering. Examine the plants once a week, and whenever one needs water supply copiously at about the same temperature as the bed.—PRACTICE.

Rapid Growth in the Arctic Summer.—Things grow very fast in the short Arctic summer. As soon as the snow melts off in many places the ground is covered with a vine which bears a small berry something like a Huckleberry, Porwong it is called. It is sour and has a pungent taste, and the natives leave off work and go Porwong hunting, cramming themselves with the berries.

Fragaria indica.—This small-leaved species of Strawberry is usually grown as a hanging plant in greenhouses, or at least afforded protection in winter. It is flowering and fruiting now on a small rockery in Mr. Barron's private garden at Chiswick, where it has been established for four or five years. The flowers are yellow, as bright as a Buttercup, and the fruits about the size of Hazel nuts, glossy crimson in colour. The many friends of the veteran will be glad to hear that his health has of late been improving.—A. CALLER.

Pea Duchess for Autumn Use.—I am forwarding a few of the Duchess Pea, as personally I think it very valuable for use at this time of the year. I have been picking from these for the past fortnight, and I have sufficient coming on like them to last another week or two. They were sown the second week in June. I have grown this variety for the past four years, and it has always given satisfaction.—W. M. D. [The pods were as green, fresh, and well filled as we have seen win prizes in July, and the peas, when cooked, were excellent in colour and quality.]

Cannon versus Hail in French Vineyards.—Mr. J. C. Covert, United States consul at Lyons, writes that a concerted effort is being made by the surrounding vineyard owners to prevent the ruinous hailstorms which frequently destroy whole crops in a few minutes. Fifty-two cannon have been distributed over an area of 2500 acres. At the centre of this tract is a central signal post, and when a shot is fired there all of the cannon are fired; at first twice a minute, and then more slowly after the first ten shots. The method is said to have proved effective in many instances, and similar organisations are being established in other vineyard districts. It is said that this practice of shooting at the clouds was followed in France over 100 years ago, and that it originated in Italy.

The Peach in Ancient Babylon.—Nothing is now more universally accepted than that the Peach is an improved variety of the Almond. The Almond has a thin shell around the stone, which splits open and exposes the stone when mature. This outer skin has simply become flesh in the Peach, so that is all that gives it its specific character. It seems now clear from investigation in the history of ancient Babylon, that in their gardens—now nearly four thousand years ago—the Peach was cultivated as it is now. It must have been many years before this, says the "Journal of the Jamaica Agricultural Society," that the Peach was improved upon the Almond, and this fact goes to show the great antiquity of the fruit. Possibly, gardening in some respects, at least so far as it relates to many of our cultivated fruits, was as far advanced six, or perhaps eight or ten thousand years back as it is to-day. Phœnicians, as proved by the records, had in their gardens Almonds, Apricots, Bananas, Citrons, Grapes, Olives, Peaches, and Pomegranates; and even Sugar Cane was in extensive cultivation. Certainly this shows how very far advanced these nations were in garden culture these many years ago.

Primroses in Bloom.—At this time of the year one's natural inclination is to talk in melancholy fashion of the picturesque falling of the leaves, and the shortening of the allotted hours of daylight. It is, therefore, more than a little interesting to learn that Primroses and Violets are blooming at Stroud, and that the first-named flower is also to be seen at Clapham and Tankerton-on-Sea, Whitstable. Politicians may be tempted to regard these facts as an augury. The Primrose is to many men not merely a lovely bloom, a fond reminder of the days when they lived in the country, but a symbol of the great ideas which were impressed on the mind of the nation by the Earl of Beaconsfield. Students of the British climate will, however, says the "Morning Post," take it more seriously, for of course the appearance of these flowers at this time is due to the fact that we have not yet had the inclement weather which generally comes as soon as there has been any reason for believing that summer has arrived from overseas. The man who cares merely for his own personal comfort, and is not interested in botany or in meteorology, will probably feel unhappy; for, if there be Primroses at Stroud in October, there will almost certainly be frost and snow all over the distracted land in May—or, at least, in the April—that follows.



Forthcoming Shows.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the respective secretaries:—

- Oot. 30, 31.—CROYDON.—W. B. Beckett, 272, Portland Road, South Norwood.
 Nov. 7, 8.—BOURNEMOUTH.—James Spong, Lindisfarne Gardens, Bournemouth.
 „ 9, 10.—ECCLES.—J. H. Bryan, 134, New Lane, Peel Green, Patricroft.
 „ 9, 10.—SHEFFIELD.—Wm. Housley, 28, Joshua Road, Sheffield.
 „ 9, 10.—ALTRINCHAM.—W. Hazlehurst, 40, Railway St., Altrincham.
 „ 14, 15.—HULL.—Edward Harland, Manor Street, Hull; Jas. Dixon, F.R.H.S., 2, County Buildings, Hull.
 „ 14, 15, 16.—YORK.—G. F. W. Oman, 38, Petergate, York.
 „ 16, 17.—BOLTON.—Jas. Hicks, Markland Hill Lane, Heaton, Bolton.
 „ 16, 17.—BRADFORD.—R. Eichel, Eldwick, Bingley.
 „ 16, 17.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.

Odd Notes on Varieties.

Ryecroft Scarlet.—This is a rather curious grower when allowed to grow in a natural way. Main branches extend horizontally, and from these lateral shoots are produced which bear the blooms. The habit is quite different from *Ryecroft Glory*. The variety bids fair to be a prolific bloomer, promising to be at its best towards the end of October. The plant is dwarf, and should prove to be a most useful decorative variety.

Madame C. Desgranges.—This fine early pure white variety is blooming well outdoors this season, the flowers being clean, pure in colour, and most abundantly produced. Good blooms can be produced when the plant is freely disbudded or crown buds are taken.

Lady Fitzwygram.—This is another excellent white, blooming at the same time as the last. It is dwarfer in habit, but blooms as freely. The best flowers are produced on crowns.

Flora.—Among the small yellow Pompons there is none to surpass this for freedom in flowering and brightness of colour. The blooms being small should be allowed to be borne three or four together on one stem, rubbing off the rest. The sprays are then very effective for decoration. The golden yellow blooms are very pretty and neat. Plants can be lifted and potted if this is done before the flowers open.

Madame Marie Masse.—This is one of the best and freest flowering varieties which develop well outdoors. This season it seems to be doing exceptionally well, and is very useful for cutting. The flowers are lilac mauve.

R. Hooper Pearson.—Among the recently introduced Japanese varieties this takes a leading place. The blooms are of a deep golden yellow colour, and the habit of the plant is dwarf and stout. The foliage is good, and plants promise to give first-class blooms on first crown buds.

Mrs. Coombs.—This variety is likely to produce most excellent blooms of a rosy mauve colour. It produces enormous flowers, which are indispensable in an exhibition collection. The late crowns after a natural break produce good blooms.

Reginald Godfrey.—A sturdy and robust dwarf growing variety. It is a light chestnut red, shaded crimson chestnut. When the plants break naturally second crown buds or terminals even will produce excellent flowers. Such buds are now of good size and promise well.

Joseph Chamberlain.—A seedling from E. Molyneux. This variety may be expected to be of good quality, and such undoubtedly it will be if buds now developing finish well. It will be interesting to see from plants pinched in May and others end of March which produce the best flowers. The buds from the May pinched plants are first crowns, and from the March pinched plants second crowns. The colour of the blooms is a deep glowing crimson, and the plants have a dwarf habit.

Julia Scaramanga.—This, a seedling from Vivian Morel, may be considered an acquisition. The rich bronzy terra cotta blooms are very pleasing, being produced in the best form on first crown buds from middle of April pinching.

G. J. Warren.—Though very similar in colour to Mrs. Mease, which, like this variety, is a sport from Madame Carnot, it is considered

a variety equal in quality and size to the parent, or nearly so. Mrs. Mease is termed the sulphur Madame Carnot, while G. J. Warren is canary yellow. All need the same treatment and securing on the second crown buds following the early April pinching out of the tip of the shoot.

Lady Hanham.—Like Vivian Morel and Chas. Davis, this variety is an extremely effective one for decoration, while at the same time it is specially adapted for furnishing good exhibition blooms, and is nearly always sure to do well. It is golden rosy cerise in colour, and if the blooms are to be on crown buds the latest formed buds are the best, or terminals may be taken, especially for decoration. The last week in August should be selected for the crowns and early September for terminals. Its resemblance in growth, habit, and method of flowering to Vivian Morel is accounted for when it is mentioned that it is a sport from that excellent variety.

Mrs. J. Ritson.—This variety is a white sport from V. Morel, and requires the same treatment, growing it on the second crown or terminal buds. It promises to be good this season, but if the blooms are not perfection they are invariably useful.

Miss Nelly Pockett.—This is a new and welcome introduction of most excellent habit, and produces magnificent flowers of creamy white colour. The buds which are now promising best are on the second crown from pinching, first week in April.

Pride of Ryecroft.—This, usually termed the yellow Niveus, is an excellent variety. In habit, height, and all but colour it is the counterpart of that variety. Buds now developing in a satisfactory condition are second crowns, the plants being pinched early in April.

Niveus.—This is a variety of good form. As it is an excellent late white, and specially useful on this account, secure second crown buds after pinching the third week in April.

Rose Wynne.—This is a useful, good-keeping variety, delicate blush in colour; florets large, incurving, forming a large flower on any bud; the terminals are exceptionally good. For exhibition, however, pinch before the end of April and secure second crowns. The growth is tall but sturdy.

C. W. Richardson.—A large and most beautiful yellow, petals curling and drooping. Plants pinched at the end of March are now showing prominently developed crown buds of great promise.

Matthew Hodgson.—This has blooms crimson red or brown, approaching scarlet. These are fast developing, the first crown bud being selected after the plants break naturally.

Master H. Tucker.—This is a rather tall variety, but the rich bronze, flushed red blooms are acceptable. They are exceptionally fine when on the second crown, the plants being stopped in March.

Sunstone.—This is a moderately tall, but sturdy growing, healthy looking variety, which does not require to be pinched before first week in May to produce blooms on the first crown. The colour is light or apricot yellow.

W. H. Lincoln.—This well tried old variety is grown chiefly for late flowers, which are produced good on any bud. It may be brought into bloom early by securing one of the first produced crown buds, but to have it at its normal season—that is, late, allow the plants to break naturally, and secure one of the late crown buds. Terminals may be selected with good results.

Master James Epps.—A deep brilliant yellow with broad florets, curly, incurving, recurving drooping. The first crown buds produced after the plants break naturally are those which are now developing, and will shortly produce blooms of exceptional merit.—E. D. S.

Royal Aquarium, October 9th, 10th and 11th.

THE early show of the National Chrysanthemum Society proved a success, for most of the large classes were well filled, and the decorative classes especially so, while the trade exhibits made a handsome exhibition in themselves.

For a group of Chrysanthemums and foliage plants arranged for effect there were two entries, and, for the early season, both groups were good, but a few more Chrysanthemums in both groups would have been an improvement. Mr. Wm. Howe, gardener to Lady Tate, Streatham Common, was placed first with a rather too formal arrangement, but the blooms were good, and the foliage plants bright and fresh. Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley Hall, Bickley, was second with better flowers and better arrangement, but there was a dull look about the exhibit that did not appear to satisfy the judges.

The chief class for cut blooms was that devoted to twenty-four blooms Japanese, not less than eighteen varieties, and there were five entries, but most of the stands would have been much better in another week. The first prize was awarded to Mr. Jas. Agate, Brockhampton Nursery, Havant, who staged a good board rather deficient in colour. The varieties were Florence Molyneux, Miss E. Pilkington, Jane Molyneux, Sir H. Kitchener, Madame G. Bruant, Soleil d'Octobre, Baden Powell, Madame Gustave Henry, Mrs. Kesby, Mrs. W. Popham, Madame Von Andre, Lady Crawshaw, Mrs. Coombs, Mrs. F. Norkett, Oceano, Miss A. Byron, Mrs. J. Bryant, and Captain Lee.

Mr. Norman Davis, Framfield, Sussex, was second with good flowers of Mrs. W. Cursham, Oceana, W. Hart, Mrs. Coombs, Miss Alice Byron, and Soleil d'Octobre, while Mr. Richard Jones, gardener to C. A. Smith Ryland, Esq., Barford Hill, Warwick, was third with clean fresh blooms. In the class for twelve blooms, distinct, there were four competitors. Here Mr. R. Jones was a good first; the varieties were Soleil d'Octobre, Mrs. White Popham, Lady Phillips, Miss Edith Pilkington, Madame Ed. Rey, Helen Shrimpton, President Nonin, Jas. Bidencope, Lady Byron, Mrs. John Shrimpton, Mrs. Coombs, and Lady Crawshaw. Mr. Jas. Agate was second with fair blooms of Mrs. J. Bryant, Baden Powell, Miss Alice Byron, Sir Herbert Kitchener, and Mrs. Coombs, while Mr. N. Davis made a good third.

For six blooms Japanese, distinct, there were four contestants. Mr. N. Davis secured first place with a good even stand. The varieties were Soleil d'Octobre, Mrs. Coombs, Miss Alice Byron, Madame Von Andre, President Nonin, and Mrs. Cursham. Mr. Jas. Agate followed with good flowers of Miss Alice Byron, Emily Towers, and Captain Lees; and Mr. T. J. Taylor, gardener to F. E. Liebrich, Esq., Logs Hill, Chislehurst, was third. In the class for six blooms Japanese, yellow, one variety, there was only one entry, from Mr. N. Davis, who was deservedly awarded first prize for six good blooms of Madame Von Andre. In a similar class for white blooms there were three entries. The first prize was awarded to Mr. T. J. Taylor for Madame Gustav Henry, while Mr. N. Davis followed with good blooms of Mutnal Friend; Mr. Henry Tanner, Horsham, brought up the rear with Emily Silsbury.

There were only two entries in the class for six blooms Japanese, any other colour, and Mr. N. Davis won with well coloured blooms of Mrs. Coombs, and Mr. S. Foster, gardener to R. Nivison, Esq., Hendon, was second with poor blooms of Mrs. W. Popham. In the class for six blooms of incurved varieties, not less than three varieties, there were only two competitors. Mr. R. Jones staged well for the first prize, the varieties being Mons. R. Bahuant, Matthew Russell (good), Robert Petfield, and Lord Coleridge. Mr. R. Andrews, gardener to A. Short, Esq., Shortlands, was second with a much weaker board.

The class for twelve bunches of Pompons attracted three exhibitors, but the board staged by Mr. J. S. Turk, gardener to T. Boney, Esq., Southwood House, Highgate, stood head and shoulders above the other competitors. The blooms were not only well grown but staged admirably. Mr. D. B. Crane, Highgate, being a much weaker second, and Mr. A. Taylor, East Finchley, third. For six bunches of Pompons, staged in vases provided by the society, we had the same exhibitors, and, curiously enough, placed in the same order, the first prize being especially good.

The large class for twelve bunches of early flowering varieties brought out three good exhibits, and Mr. E. Ryman, gardener to C. Sopper, Esq., South Park, Reigate, was a splendid first, the bunches being large and fresh; the varieties employed were Lemon Queen, G. Wermig, Madame Marie Masse, Madame Desgranges, Zephyr, Lionet, Flora, La Vierge, Blushing Bride, and Coral Queen. Mr. Eric F. Such, Maidenhead, was second with good bunches of Blushing Bride, Coral Queen, Strathmeath, Crimson Queen, and Bronze Marie Masse; Mr. T. S. Turk brought up the rear.

In the smaller class for six bunches there were four entries, Mr. Jas. Brooks, gardener to W. J. Newman, Esq., Totteridge Park, Totteridge, making a good first with typical bunches of Madame Desgranges, Lyon, Madame M. Masse, Blanche Colomb, Bronze Bride, and Blushing Bride. Mr. E. H. Chitty, gardener to S. Hardy, Esq., Highgate, was second with a bright display and Mr. A. Taylor third.

The trade exhibitors made a fine display. Mr. H. J. Jones occupied a large space with a group of Chrysanthemums, Bamboos, Palms, Crotons, Cannas, and Begonias of the tuberous section, also some splendid plants of the winter flowering varieties. The Devon Chrysanthemum Nursery, Teignmouth, had an exhibit of Chrysanthemums, Cactus Dahlias, and single Zonal Pelargoniums, the latter being exceptionally fine. Mr. W. J. Godfrey, Exmouth, arranged a good display of October flowering varieties with a collection of the exhibition varieties. A grand display of Apples, Pears, and Damsons was made by Messrs. S. Spooner & Sons, Hounslow, some of the baskets of Apples being especially good. Messrs. Dobbie & Co., Rothesay, had a collection of early flowering Chrysanthemums grown in the open ground at Rothesay. Mr. R. C. Pulling, Monkham's Nursery, Woodford Green, arranged a group of Chrysanthemums with foliage plants. From Messrs. J. Laing & Sons, Forest Hill, came a large collection of fruit. The Apples were specially well coloured and clean. A grand group of Cannas was arranged by Messrs. H. Cannell and Sons, Swanley, the colours being exceedingly bright. Mr. Jas. Williams had a group of Chrysanthemums. The plants were all splendid examples of the market growers' art. Messrs. T. S. Ware, Ltd., Feltham, contributed a display of double and single Begonias arranged in colours. A pretty group of early flowering Chrysanthemums was sent by Mr. J. H. Witty, Nunhead Cemetery, and hardy flowers were well represented by Mr. H. Deverill.

Floral Committee.

There was a good attendance of the Floral Committee, and about ten seedlings and sports were brought up for awards, but the only variety to secure a certificate was Mrs. Jas. Williams (J. Williams), a canary yellow sport from Lady Fitzwygram, the well-known market

white. The certificate was awarded as for a market variety. An exhibition variety, Attraction (W. J. Godfrey) was commended. It is a variety that resembles Julia Scaramanga in colour and form.

Spring Flowering Bulbs.

SPRING-FLOWERING bulbs are amongst the most easily grown plants for pots that an amateur can have; as, with only a cold frame, they may be cultivated to perfection. Our main batch last season was grown in cold frames, and the plants, I was told, were quite equal to any exhibited at the principal London shows.

We grow a large quantity of bulbs for conservatory decoration, so some are potted now which are required early, and the main batch about the third week in October. Apart from Roman Hyacinths, which were potted three weeks since, the following are the earliest, and will be potted first:—Hyacinths—Norma, pink; General Pelissier, bright crimson; and La Tour d'Auvergne, white. Tulips—Duc Van Thol, crimson, scarlet, and yellow; Le Matelas, more expensive than the majority, but very beautiful, colour bright rose; white and yellow Pottebakker, and Vermilion Brilliant.

The varieties of Duc Van Thol are grown in pans, being inserted about an inch and a half apart and when brought in for forcing are placed on a shelf close to the glass in a temperature of 55° to 60°. As soon as the buds show colour, and before they expand, they are lifted carefully from the pans, the roots washed clean, and arranged in small vases, specimen glasses, fancy baskets, or glass dishes or bowls. Clean water only is required when placed in the vases or single specimen glasses, but when placed in the baskets or bowls the roots are arranged in cocoa-nut fibre refuse, and surfaced with moss, receiving a thorough watering when finished, to settle the fibre about the roots so as to keep them fresh. Small Ferns, single roots of Lily of the Valley, also small Primulas and Cyclamens, may be worked in the baskets with advantage. My readers no doubt have seen such baskets on view in florists' windows, so the arrangement of the plants to them will not appear difficult. I have learned many hints from viewing these windows, and at one time wondered how these baskets were furnished; but, when once let into the secret, the plan is easily followed.

The following are the varieties grown for the main display:—Hyacinths—Cavaignac, pink; Fabiola, rose; Macaulay, rose; Robert Steiger, bright crimson; alba maxima, Grandeur à Merveille, and La Grandesse, whites; Baron Van Tuyl, Czar Peter, Grand Lilas, King of the Blues, Lord Derby, and Marie, blues; Ida and Cloak of Gold, yellow; Koh-i-noor, double pink; Florence Nightingale, double white; and Blocksberg and Laurens Koster double blue. The above are the best doubles. It should be borne in mind that the singles form the best spikes. We grow other varieties, but the above are a good selection.

Tulips—Couleur Cardinal, Fabiola, rosy purple and white; Joost Van Vondel, rosy crimson, white pencillings; Kaiser's Kroon, crimson scarlet, margined with clear yellow; Proserpine, dark rose; and Wouverbans, deep purple. Crocuses—Golden Yellow, King of the Blues, purpurea grandiflora, and Sir Walter Scott, white, striped lilac. Scilla sibirica we also grow in pots. Narcissi—N. bicolor Horsefieldi, N. bulbocodium, N. obvallaris, N. princeps, and N. spurium Henry Irving. The above we have found the most useful for pot culture. Ixias, Fritillarias, Freesias, and early-flowering Gladioli may be all grown in pots.

The compost most suitable for Hyacinths is equal parts of rich fibrous loam, decayed cow manure, leaf soil, and river sand. Horse manure should be substituted for cow manure for Tulips. Five-inch pots are a useful size for Hyacinths, 6-inch for Tulips, three bulbs in a pot, and the same for Narcissi. The other bulbs named should be placed about an inch apart in 5-inch pots. The pots should be well drained, and the soil pressed in rather firmly to about two-thirds the depth. The crown of the Hyacinths and Tulips should be level with the surface soil, and the other bulbs named half an inch beneath it. The soil must be pressed about the bulbs, not the bulbs pressed into it. If the soil is in a proper state as regards moisture, not too dry, no water will be required after potting while plunged.

After the bulbs are potted stand them on a bed of ashes and cover to the depth of 4 or 5 inches above the pot with cocoa-nut fibre refuse. If wet weather should set in, the bed must be protected, as too much water will cause the roots to decay. In about five or six weeks the bulbs will be well rooted and the tops have grown about an inch; they must then be taken from the plunging material and stood in a cold frame, the light being excluded for a few days so as to inure the young growth to it by degrees. Water carefully, and ventilate freely on favourable occasions; and, by the time the plants are in full growth, weak liquid manure should be applied at every other watering. The plants will come into bloom in the frame; but, as previously stated, some may be placed in a greenhouse or in a warm structure if required early.—A.

Melon Culture.

I WAS much interested in your account in the Journal of August 30th of the system of growing Melons in a plant stove, as practised by Mr. A. Pettigrew in the gardens at Cardiff Castle, thereby showing—as illustrated in the photograph—that it is not absolutely necessary, to obtain success, to have houses for their special cultivation. I take a great interest in Melon growing, and I am sending you particulars of my method, which may prove of service to some of my fellow readers. My Melon house is a span-roofed one, 42 feet in length, and 13 feet 6 inches wide. It is divided in the middle, each division's crops following in succession, and from both I get two crops a year. My soil is none of the best, being very heavy in texture, not over-sweet in nature, and therefore requires a little preparation. The actual border is 24 inches wide and 12 inches deep, and in each division of the house I plant twenty-six Melon plants, that is thirteen plants on each side of 21 ft. in length. With this number of plants they must be grown like Vines—that is, on the single stem system. When about two-thirds up the rafters they are stopped, and all the laterals up to the first wire pinched out. If the varieties are free fruiteders they may show fruit at the first leaf; if shy fruiteders they may not show at the second growth when stopped at the first leaf, but if stopped at the second leaf they invariably produce fruit.

My aim is to produce at least two fruits on each plant, which, according to the sort, swell off very satisfactorily, some of them reaching 6 lbs. in weight. It is necessary that all the fruit blooms should be open and set on the same day, so as to insure even swelling and a full crop. I may say that I, too, have adopted the system of a "disc" round the stems of the Melon plants to avoid canker at the collar, often brought on by injudicious watering, and to further obviate the risk I put powdered charcoal, an inch or two deep, round the stem, which, combined with the disc, is very effective.

Now as to results. I herewith send you a photograph (fig. 94), taken on September 19th, of the crop that was then ripening. This is the second this season, the first being practically of the same size; the other division of the house grew two similar crops. The number of Melons represented in the photograph is seventy, grown on twenty-six plants in a house 21 feet long. The fruit as shown are suspended in nets, all the strain being taken from the collar of the fruit, so as to enable the Melons to get ripe before pushing from the stems. My gardener is of twelve months' standing, being a labourer prior to that. On the death of my late gardener he expressed the wish that he would like to try and do the work, and in his own phraseology said that "he fair itched to learn," and could do as

he was told. I consented to try him, with the result, as far as Melons go, as shown in the photograph; and I am glad to say, in all the other branches of his work—fruit, vegetables, flowers—and in the general neatness and cleanliness of the gardens it is satisfactory.—T. G. S. G.

Royal Horticultural Society.

Drill Hall, October 9th.

THE Drill Hall on Tuesday last was remarkably well filled with varied and excellent exhibits. Michaelmas Daisies were splendidly staged by several growers, as also were other hardy flowers. The honours for super-excellence must be divided between the fruit from Mr. Fyfe and the group of plants from Mr. Hudson.

Fruit Committee.

Present: G. Bunyard, Esq. (in the chair); with the Rev. W. Wilks,

and Messrs. H. Esling, W. Poupart, E. Shaw Blaker, A. F. Barron, A. H. Pearson, W. Pope, A. Dean, S. Mortimer, G. Kelf, F. Q. Lane, J. Smith, G. Reynolds, E. Beckett, and G. Wythes.

Mr. W. Fyfe, gardener to Lord Wantage, V.C., Lockinge Park, Wantage, contributed a splendid collection of hardy and under glass fruit. The Grapes were shown on boards erected on easels and framed in Ampelopsis. These included small but well finished bunches of Black Alicante, Muscat of Alexandria (fine in berry and colour), Gros Colman (grand berries, deficient in colour), and Lady Downe's Seedling. Then, too, there were Cherry Morello, Plums Jefferson, Washington, Coe's Golden Drop, and Black Orleans; Melon Hero of



FIG. 94.—MELONS IN A PLANT HOUSE.

Lockinge; Apples Wellington, Grenadier, Peasgood's Nonesuch, Warner's King, Alfriston, Blenheim Pippin, Emperor Alexander, Beauty of Hants, Tyler's Kernel, Fearn's Pippin, Ribston Pippin, Worcester Pearmain, Cellini, and Court Pendu Plat, with several Pears and Peaches (gold medal).

Mr. J. Bond, gardener to W. E. S. E. Drax, Esq., Olantigh Towers, Wye, Kent, was represented by a large collection of vegetables, including excellent Carrots, Parsnips, Onions, Potatoes, Cauliflowers, Savoys, Leeks, Marrows, and Tomatoes (silver Knightian medal). Messrs. J. Veitch & Sons, Chelsea, showed Tomato Chiswick Peach in splendid form, with Pea Veitch's Autocrat, Apple Surprise, and Peach Late Devonian. Mr. C. Ross, gardener to Capt. Carstairs, Newbury, sent new Apples, The Houblon and Rival. Messrs. R. Veitch & Son, Exeter, contributed Apple Royal Snow, and Tomato Veitch's Glory. Several other growers contributed small exhibits.

Mr. W. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill, arranged a collection of fruits, including Grapes Directeur Tisserand (excellent), Gros Guillaume, Foster's Seedling, Gros Colman, Gros Maroc, Muscat of Alexandria, Black Alicante, Trebbiano, Lady Downe's (fine), Chasselas Napoleon, and Mrs. Pince. The Apples were Peasgood's Nonesuch, King of Tompkin's County, Cox's Pomona, Cox's Orange Pippin; Pears Conference, Pitmaston Duchess, and Beurré Diel, with Plums and Tomatoes (silver-gilt Knightian medal). Mr. W. H.

Bacon, gardener to Sir M. Samuel, The Mote, Maidstone, sent a collection of fifty dishes of Pears, including representative examples of all the leading varieties (silver Knightian medal).

A small group of Figs in pots was shown by Mr. J. Hudson, V.M.H., gardener to Leopold de Rothschild, Esq., Gunnersbury. The plants were well grown and carried numerous fruits in various stages of development. Messrs. H. Cannell & Sons exhibited Apples and Pears in considerable numbers. Many of the fruits had taken on an excellent colour, and the varieties included all the better known sorts. Crabs, Plums, and Strawberry St. Joseph were also represented (silver-Knightian medal). The same firm also contributed some handsome vegetables, grown at the Eynsford nursery. There were Cabbage Cannell's Defiance, grand Onions, Parsnips, Carrots, Leeks, Cannell's Prizewinner Tomatoes, Beet, Cauliflowers, Vegetable Marrows, and excellent Potatoes, with a splendid collection of Gourds, ranging in size from a small Pear to a monster weighing about 80 lbs. (silver gilt-Knightian medal).

A large collection of Apples and Pears was arranged by Mr. A. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley. The collection was very comprehensive, and some of the fruits were of exceptional excellence. The Apples as a whole were superior to the Pears in colour and cleanliness (silver-gilt Knightian medal). Mr. J. Watkins, Withington, Hereford, sent a collection of ornamental, American, and other Crabs (silver Banksian medal).

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. O. Thomas, C. T. Drury, H. B. May, W. Howe, J. Hudson, J. Jennings, C. R. Fielder, J. D. Pawle, G. Gordon, J. Walker, H. J. Cutbush, H. J. Jones, and J. Fraser.

A collection of twenty-five varieties of Bouvardias was sent by Mr. H. B. May, Upper Edmonton. The plants were splendidly grown, and carried numerous flowers (silver Banksian medal). Mr. A. Chapman, gardener to Capt. Holford, Weston Birt, Tetbury, contributed a superb collection of autumn leaves. This made one of the handsomest exhibits in the show. Practically all kinds that take on brilliant tints were represented (silver-gilt Flora medal). Mr. J. Russell, Richmond, showed a group of Ligustrums in pots, including many well known and several rare kinds. This was an interesting exhibit, such as is seldom seen at the Drill Hall (silver Banksian medal).

Ferns in variety and Ficus radicans variegata were arranged by Messrs. J. Hill & Sons, Lower Edmonton. The plants were excellently grown and effectively staged (silver Banksian medal). Mr. J. Williams, Lewisham, sent well flowered plants of Chrysanthemum Mrs. James Williams, a yellow sport from Lady Mary Fitzwygram, with plants of the typical variety; it is of decided merit. A paler variety from this was named Primrose Queen. Messrs. W. M. Johnson & Son, Boston, showed a collection of Sweet Peas, which were, for the time of year, of distinct merit.

Roses were charmingly shown by Messrs. W. Paul & Son, Waltham Cross. Particularly meritorious were Corallina, Morning Glow, Queen Mab, and Enchantress; several seedlings of decided promise were included in the group. Messrs. W. Wells & Co., Earlswood, showed early Chrysanthemums, amongst the best of which were Jules Mary, Coral Queen, Miss Ruth Williams, Annie Bowerman, Jeanie Vuillermet, Paul Valade, Victor Mew, Mytchett White, O. J. Quintus, and C. A. de Wit (silver Banksian medal). Mr. Will Tayler, Hampton, sent three boxes of excellent cut Roses (silver Banksian medal).

Messrs. Barr & Sons, Covent Garden, contributed, from their Long Ditton Nursery, a splendid collection of Michaelmas Daisies, with Phloxes, Gladioli, Dahlias, and other hardy flowers. It was a fine exhibit (silver-gilt Banksian medal). Mr. T. S. Ware, Ltd., Feltham, arranged a table of Cactus Dahlias, Gladioli, Michaelmas Daisies, and Liliums. The Dahlias in bunches were handsomely shown (silver Banksian medal). Messrs. J. Veitch & Sons, Ltd., Chelsea, were represented in the floral section by a group of Michaelmas Daisies. The plants were magnificently flowered, and comprised the major portion of the best types (silver Flora medal). Mr. E. Beckett, gardener to Lord Aldenham, also sent these flowers in grand condition.

Mr. J. Hudson arranged down the centre of the hall a magnificent group of Salvia splendens grandiflora and the dwarf-growing form, with specimen Cape Pelargoniums at intervals. The whole of the plants represented excellent culture (silver-gilt Banksian medal). Messrs. J. Backhouse & Son, Ltd., York, sent Colchicum speciosum atro-rubens and C. s. album, with Cupressus Lawsoniana pygmaea argyrea. Messrs. J. Veitch & Sons showed Solanum Wendlandi, Rhododendron javanicum-jasminiflorum hybrids in variety, Hydrangea hortensis Mariesi, and Tritoma Chloris. Mr. H. Elliott, Hurstpierpoint, sent Nerines in variety.

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, de Barri Crawshaw, H. M. Pollett, H. Little, H. J. Chapman, W. H. Young, H. A. Tracy, W. Cobb, E. Hill, C. Winn, T. Rochford, J. Douglas, A. H. Smea, and J. G. Fowler.

Orchids were not numerously shown. Mr. Smith, Orchid grower to the Rt. Hon. Joseph Chamberlain, showed half a dozen plants, including Cattleyas and Lælio-Cattleyas, with Dendrobium Phalaenopsis. Mr. W. H.

Young, Orchid grower to Sir F. Wigan, Bart., sent Cattleyas labiata The Puritan, and Ingrami; Messrs. J. Veitch & Sons, Cattleya Chloe; Mr. E. Hill, gardener to Lord Rothschild, Tring Park, Cattleya Maroni, Tring Park variety; Mr. J. Powell, gardener to W. E. Brymer, Esq., Dorchester, a Lælio-Cattleya from C. Mendeli and L. elegans; and Mr. Howard, gardener to H. Little, Esq., Twickenham, Cattleya Dowiana aurea superba. Messrs. H. Low & Co., Bush Hill Park, were represented by Cattleya Loddigesii gigantea, C. Bowringiana, Low's variety; Lælia pumila, Bush Hill var.; and Lælio-Cattleya Aurora. Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bt., Dorking, staged Vanda Sanderiana, Burford variety; Maxillaria striata, Cirrhopetalum guttatum, Habenaria carnea, Masdevallia Ajax superba, Angræcum citratum, and one or two others.

Certificates and Awards of Merit.

Apple Rival (C. Ross).—A cross from Peasgood's Nonesuch and Cox's Orange Pippin. The fruit is flat, of rich red on the sun side and yellow on the shady side. The open eye is deeply set; stalk very short (award of merit).

Aster Hon. Edith Gibbs (E. Beckett).—An extremely free-flowering variety; the small blooms are pale mauve (award of merit).

Aster Hon. Vicary Gibbs (E. Beckett).—The colour of this upright growing variety is pale pink (award of merit).

Aster Captivation (E. Beckett).—A large flowered variety; the colour is delicate blush (award of merit).

Cupressus Lawsoniana pygmaea argentea (J. Backhouse & Sons).—This is about 12 inches high, and its varietal name most accurately describes it (award of merit).

Dahlia Mrs. H. J. Allcroft (S. Mortimer).—A true Cactus variety; the colour is yellowish buff (award of merit).

Chrysanthemum Mrs. J. Williams (J. Williams).—This is an excellent yellow sport from Lady Mary Fitzwygram; it will be acceptable (award of merit).

Dracæna Offeri (A. Offer).—A narrow leaved variety of graceful habit. The colour is very deep green with bright red margins (award of merit).

Kniphofia Triumph (Barr & Sons).—A superb Tritoma with immense yellow flowers (award of merit).

Kniphofia Leichtlini aurea (Barr & Sons).—A chastely beautiful form; the colour is rich orange scarlet (award of merit).

Lælia pumila Bush Hill variety (H. Low & Co.).—This is a variety of great substance and excellent shape. The colour is white suffused lilac (award of merit).

Melon Freechase Favourite (M. Meads).—A white-fleshed variety of good flavour (award of merit).

Nerine Purple Prince (H. Elliott).—A superb, rich velvety crimson variety of large size (award of merit).

Plum President (F. Rivers & Son).—This splendid Plum is too well known to call for a description (first-class certificate).

Polygonum Orientale (J. Hudson).—This is a distinct plant with large leaves, the flowers are in branched spikes; the colour is rich purple crimson (award of merit).

Rose Morning Glow (W. Paul).—An attractive Tea variety; the colour is a mixture of copper buff and salmon (award of merit).

Dried Fruits.

THERE is another way, it would appear, in addition to jam and preserve making, by which those persons who have surplus fruit on hand can turn it to profitable account. A correspondent of a Lancashire paper, writing from Carlsbad, expresses surprise that the English are not more self-helpful in the matter of dried fruits. They continue to import vast quantities when they have the makings in their own hand. It is not a question of large outlay, of special skill, or of favourable climate. German farmers and peasants are not at all better circumstanced as regards this little industry than the same classes in England are, and yet they not only supply themselves, but draw a considerable sum out of British pockets for what they have to spare. The drying is accomplished either in ovens or by stove heat, and only a very short training is said to be required for expertness in this, the most important stage of manufacture. There is very little breakage during transport to market and distribution, the fruit being packed tightly in wooden boxes instead of in bottles or jars. It is admitted that the quality would probably be much inferior to that of the so-called "Carlsbad Plums" which are said to be chiefly produced in Bosnia, the Herzegovina, and France. But there is always a steady demand for cheaper kinds of lower grade, as witness the large importation of German Prunes. The same process can be applied to Apples and Pears for their conversion into pippins, but there is not the same urgency in their case.—("Globe.")



Fruit Forcing.

Cucumbers.—The young plants that are to afford a supply of fruit about the new year, they now being strong, healthy, and well rooted in pots, should be placed out on ridges or hillocks, training with a single stem to the trellis, up which they may be allowed to advance two-thirds, when the lead can be pinched. Those not having the convenience of a Cucumber house may secure fair supplies of fruit during winter by growing the plants in pots or boxes, training the growths near the glass over the paths in stoves, fruiting Pine houses, or other well-heated structures.

Plants in full bearing, as the autumn-fruiters now are, should not be overcropped, or the fruit allowed to remain on the plants after it is fit to cut, removing all deformed fruit in a young state. Sudden checks should be avoided, such as those occasioned by currents of cold air, and the alternating drying and steaming of the atmosphere by irregular procedure, as these are responsible for stunted, uneven swelling fruit, whilst a too moist atmosphere and also close causes the fruit to damp at the blossom ends. Maintain a night temperature of 65° to 70°, 5° less in the morning, 75° by day, up to 85° or 90° with sun, admitting a little air at the top of the house at every favourable opportunity. The evaporation troughs should still be charged with water or clear liquid manure, and the floor damped with water about 8 A.M. and 4 P.M., dispensing with the syringe over the plants. Reduce the supply of water at the roots, but not so much as to cause flagging.

A little manure, such as sweetened horse droppings or well decayed, lumpy, farmyard material, will benefit the plants through the waterings washing the elements into the soil and the moderate amount of ammonia given off, but this must not be excessive or the foliage will be injured. Keep the foliage thin and the glass clear, so as to secure thoroughly solidified growth. Subdue canker by rubbing quicklime into the affected parts, and keep mildew in subjection by dustings of sulphur or the blight powders advertised. Fumigate with tobacco or vaporise with nicotine for the destruction of aphides, which are unusually prevalent this season, also against thrips, and if there be any mealy bug it succumbs to nicotine vapour.

Peaches and Nectarines.—*Earliest House.*—The trees are now leafless, and should be overhauled for pruning, dressing and readjusting of the growths. Where due regard has been given to disbudding, preventing overcrowding and removing the useless growths after the fruits were gathered, very little pruning will now be required. Weakly and unpromising branches, however, may often be advantageously cut out in favour of sturdy, short-jointed growths, and unduly long shoots be shortened so as to originate vigorous ones from them at the proper place for covering the trellis evenly with bearing wood. The house should be thoroughly cleansed, the woodwork with soap (preferably carbolic or soft), water, and a brush, the glass with clear water, and the walls limewashed, adding a handful of flowers of sulphur to a pailful, the sulphur being first formed into a paste with a little skim milk. The trees also should be washed with a soft soap solution, 3 ozs. to a gallon of water, applying with a brush and taking care not to dislocate the buds, following with an insecticide. Likewise the border needs attention, removing the mulching or loose surface soil, pointing over very lightly, and supplying fresh loam, but not covering the roots more than 2 inches. About a quart of a mixture, in equal parts by measure, of soot and air-slaked lime, with a pint of some approved fertiliser, may be mixed advantageously with every barrowload of the loam, and its manurial elements will get diffused through the soil by rains or watering, and be available as food when the trees start into growth. The roof-lights may remain off until late November or the approach of severe weather, frost and snow sometimes interfering with their replacement. Both outside and inside borders are the better for whatever rains may fall up to starting, provided the drainage be thoroughly effective, and no covering is necessary beyond a light one to prevent the soil becoming frozen, for no roots can absorb moisture or nutriment from it in that state.

Trees Started at the New Year.—The foliage is mainly off, but some leaves cling to the latest growths with remarkable tenacity, an indication that the wood is not so well matured as obtains with forced trees generally, yet the buds are sufficiently plumped, and there is nothing to fear from immaturity, indeed there is more danger from over premature ripening in the buds falling than from somewhat late retention of the foliage. Clear away the leaves as they fall, and when all are down lose no time in having the house thoroughly cleaned, the trees pruned, dressed, and tied to the trellis, top-dressing the border as before advised unless the trees have been lifted or root-pruned, when, of course, it will not be necessary. If the lights are movable they may be taken off, or if already off they need not be replaced till December, otherwise afford all the air possible, and keep the inside border in a properly moist condition.

Succession Houses.—The foliage in these is quite green, being somewhat later in shedding, where quite free from insects and red spider, than usual. The growths, however, are firm, and the buds quite prominent enough in the axils of the leaves. Too much air cannot be admitted, but it is necessary to reduce the ventilation on cold nights, or close the house in case of severe frost, which may cause the sudden collapse of the foliage, and prejudicially affect the buds. Any trees that are unsatisfactory should be root-pruned or lifted as soon as the foliage is matured sufficiently, as is the case when giving indications of falling. In respect of young trees making a late growth it will be advisable to form a trench at a distance from the stem equal to about one-third the spread of the branches, detaching all the roots and leaving the trench open for ten days or a fortnight, when it may be filled firmly. This checks growth, and contributes to the maturity of the wood and buds. It also encourages the formation of fresh rootlets, insuring a fibrous formation of them, which will decidedly benefit the setting and stoning of the fruit. Care must be taken not to allow the soil to become dry in the part undisturbed.

THE BEE-KEEPER.

Winter Passages.

It is frequently advantageous to make winter passages for the bees, as it gives them free access to all the combs. When stocks are wintered in hives having single sides, often not more than half an inch in thickness, they are easily affected by the changes in the temperature, and if extreme cold should set in it is a great advantage to them if they are within easy reach of their stores. If they have no passage through the combs, or over the tops of the frames, they must either pass round the ends or the bottom of the combs to reach the necessary food. The bees during the dull days of winter usually cluster in the middle of the hive, and are in a state of stupor. They, however, require food. If they leave the cluster to obtain it they are often unable to return.

Early in the spring when making examinations of the various colonies in our own and other apiaries, we have found weak stocks in which there were several seams of dead bees which had died owing to their inability to reach the stores, which in the majority of instances were only a few inches away. Bees as a rule cluster between the empty combs, as the sealed stores are cold to their feet, and as the food is consumed above them, they have to travel to the next comb to obtain it. They then become numbed by the cold, and this is the reason they are found dead the following spring.

We have experimented in various ways, so that whatever may happen the bees should not die from want whilst there were ample stores in the hive. We do not recommend the system of cutting holes through the combs, although the bees themselves often make pop holes. Winter passages should be made over the tops of the frames by placing two or three laths about a quarter of an inch in thickness in such a position that the bees may pass readily from one comb to the other without becoming chilled. Ample coverings are used after the quilt has been placed in position.

Packing Hives for Winter.

Although the days have been warm the nights are getting gradually colder, and no time should be lost in placing extra coverings on the hives. Much will depend on the class of hive in use. If it is single walled the bees will doubtless ere this have removed the stores from the two outer combs. When this has taken place it is an excellent plan to remove them, and in their places put a division board. The hive will thus be double walled all round, which will be an advantage should the winter be a severe one.

If the hives have double walls and an open space at the sides for winter packing, the open air space may be left throughout the winter, or be filled with whatever material is most in favour. We prefer cork dust, such as the Almerian Grapes are packed in, as it is dry and warm, and answers the purpose admirably. Whatever plan is adopted for wintering, there should be an abundance of warm material placed on the tops of the frames. It should be of an open porous nature, the moisture will then not condense on it, as it will on waterproof material.—AN ENGLISH BEE-KEEPER.

Trade Catalogues Received.

- E. P. Dixon & Sons, Hull.—*Fruit Trees and Roses.*
 F. C. Heinemann, Erfurt, Germany.—*Trade List of Novelties and Specialties.*
 Chas. Turner, Royal Nurseries, Slough.—*Roses.*
 J. Veitch & Sons, Ltd., Chelsea.—*Hardy Trees and Shrubs.*



• All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Sample of Mushroom Spawn (R. G.).—The portion of brick is neither much possessed of the fine mycelial threads nor has the characteristic smell of Mushrooms. Still there is some spawn, and the threads or mycelium appear to be sound, but this can only be determined by placing under growing conditions. Considering the meagreness of the spawn in the portion of brick and its having a musty instead of a Mushroom-like smell, we should not care to rely upon such for spawning a Mushroom bed. The brick appears old.

Does Barley Straw Deteriorate (Coventry).—Yes, to some extent after the second or third year, but much depends upon the place of storage or of the stack being well thatched, and thus kept dry and in sound condition. This generally makes all the difference; still the straw loses value from year to year, and is best used within a year or two, or at most three years from gathering. Nevertheless we have known some used much older and with good results in feeding value as chaff.

Begonia Gloire de Lorraine (Lorraine).—There is some doubt as to the exact parentage of this beautiful winter-flowering variety. It was exhibited by MM. Lemcine et Fils, of Nancy, at a meeting of the National Horticultural Society of France in the early part of 1892, and then stated to be a cross between *Begonia socotrana* and *B. weltoniensis*, being described as covered with beautiful small soft rose-coloured flowers. A certificate of merit was awarded, and it was sent out at the end of the year named. At a meeting of the Royal Horticultural Society, held in the Drill Hall, James Street, Westminster, on October 24th, 1893, Mr. Jennings, gardener to Leopold de Rothschild, Esq., Ascott, Leighton Buzzard, exhibited some exceptionally well flowered plants of *Begonia Gloire de Lorraine*, and for which a first-class certificate was awarded. From a sketch of one of these an illustration appeared in the *Journal of Horticulture*, March 8th, 1894, page 185, and it is there stated that the plants exhibited were propagated in June from a plant purchased in February, 1893. In Messrs. Jas. Veitch & Sons, Ltd., Plant Catalogue, page 54, *Begonia Gloire de Lorraine* is said to have been obtained from B. Dregei and *B. socotrana*.

Select Apples for Standards (P. W.).—Twelve dessert Apples:—Devonshire Quarrenden, Worcester Pearmain, Court of Wick, Fearn's Pippin, King of the Pippins, Cox's Orange Pippin, Claygate Pearmain, Brownlee's Russet, Cockle's Pippin, Balchin's Pearmain, Court Pendu Plat, and Lord Burghley. Twelve kitchen Apples:—Duchess of Oldenburg, Cox's Pomona, Grenadier, Warner's King, Lord Derby, Blenheim Orange, Gascoyne's Scarlet, Baumann's Red Reinette, Beauty of Stoke, New Northern Greening, Bramley's Seedling, and Newton Wonder. It would be advisable to have the land well prepared for the trees, and though you must relay most of the turf it should not be brought up over the roots, but at least a yard space left round the stem of each tree, and this circle of 6 feet diameter should be duly mulched after planting. This procedure is necessary to give the trees a start and secure their speedy establishment. The old cider Apple trees may be cut over during winter, and in the spring crown grafted. There is a chance of their doing well, especially if such varieties as Alfriston and Bramley's Seedling are employed. The latter variety we advise in particular, and have no doubt of the venture proving very profitable in a few years.

Are French Beans Good for Horses? (T. A. C. C.).—The varieties of Haricot Beans are, when carefully and thoroughly cooked, good as food for man, but we have no experience of ordinary French Beans in ripe state as food for horses. Will any correspondent oblige with particulars of the use of French Beans for horses?

Old Hay versus New Hay (Idem).—Old hay is equal and in some cases better to new, especially for horses, particularly hunters and carriage horses. Such in good condition always commands higher prices than newer hay, which is a fair criterion of its value.

Worms in Box-edged Path (W. J. G.).—The safest remedy will undoubtedly be clear lime water, as it will neither discolour the paths nor injure the Box; indeed, it will be beneficial rather than otherwise to the edgings, as Box must have lime to maintain it in health. Place a few lumps of fresh lime in a tub, which fill with water; let it remain until quite clear, removing the scum that will form on the surface, then apply it to the walks copiously through the rose of a watering-pot, and shortly afterwards the worms will rise to the surface and can be swept up, or at any rate if they do not come to the surface they will otherwise take their departure. By applying lime water to the paths as often as is needed they will be kept clean. The quantity of lime used is not material, as if half a pound to the gallon is used the lime water will be as strong as if twice that quantity were placed in the vessel; thus there is no danger or possibility of making the preparation too strong, or so strong as to injure Box edgings.



FIG. 95.—NIEREMBERGIA RIVULARIS.

Aloysia citriodora or Lemon-scented Verbena Propagation (H. S.).—The most satisfactory way of raising a stock is to obtain well-grown, thrifty young plants, in spring and grow them on for the season. As the wood ripens, give less water until they are at rest, when it must be nearly withheld. About the end of January bring into light and warmth and water thoroughly. As soon as the plants break cut them back to three or four eyes, and when the young shoots are about an inch long transfer into rich sandy soil, using pots a size or two smaller than those they were in before. When the pots are full of roots transfer to pots that are to hold the plants for the season. The plants will make vigorous growth, and plenty of young shoots will be forthcoming by August. These when about half ripe should be made into cuttings in the usual way, retaining the growing with another joint above the soil, and one or two joints for inserting in a sandy compost surfaced with sand. The cuttings may be placed at the sides of pots, and after insertion

stood in a cold frame, shading and keeping close for about three weeks, when the cuttings will for the most part have rooted. Gradually inure to air and light, and pot before winter, or keep in store pots during the winter, repotting early in the spring.

Nierembergia rivularis (P. Done).—This plant was found by Miers, about the year 1845, growing on the grassy banks of the Rio de la Plata, South America, "the prostrate branches creeping among the grass, above which rise its pretty white flowers." Indeed, under cultivation, and when well established, there are few similar plants that contribute so much in such little space towards the beauty of the rock-work or border as this little gem. Although it seems to prefer a rockery or a similar situation where its roots get curbed, it will do equally well on dry banks or flats, and a large patch we saw on the flat fully exposed was a sight not soon to be forgotten, so thickly were the large beautiful white cups studded among the leaves on short stalks like so many Campanula-shaped Mushrooms. Those not hardy in the open air may be used with great advantage indoors in the shape of trailing or creeping plants. A hanging basket made with *N. gracilis* as an edging is extremely pretty, besides having the advantage of being permanent. Then there is *N. frutescens*, a strong shrubby species of considerable worth for a greenhouse or conservatory, as it makes fine bushes in a short time, flowering more or less incessantly. *N. rivularis* (fig. 95) rarely grows more than an inch or two in height, having long prostrate creeping branches rooting as they spread away from the centre, which requires filling up occasionally. The leaves are alternate, oblong, blunt at the summit, on a long slender stalk; the corolla, shaped like a Campanula, is upright, about 2 inches in diameter, pure white, and very handsome. It flowers through the summer, and may be increased by division.

Pruning Roses, Vines, and Fruit Trees (Coventry).—The Roses ought not to be pruned until the late winter or early spring months, as the pruning buds will certainly start into growth and thus be liable to suffer from the spring frosts. Besides, the growth is not yet sufficiently matured, or the plants dormant enough, to admit of its being done successfully. Vines may be pruned if the leaves are all down, or even if the foliage is becoming sere. If there are leaves in a green state they should not be pruned, and even if becoming sere they must not be removed from the pruning buds, but left to fall naturally. Fruit trees of most, if not all, kinds may be pruned now; indeed, the early autumn is a better time than late autumn for winter pruning, as then the wounds have time to heal, and the growth will be more vigorous in the spring in consequence.

Fuchsia Riccartoni (G. F. H.).—This is a fine old plant, and flowers with such profusion in autumn that it should have a place in every garden. Its slender shoots laden with flowers are very effective when arranged with other flowers for decorative purposes. When planted singly in shrubbery borders it brightens them wonderfully at this season, but its effect in this position is nothing to a large bed planted with it. Where a garden of hardy plants is required gay as long in autumn as possible, one or more beds should be filled with this useful old plant. It contrasts well with beds of Pentstemons, Antirrhinums, and such plants that flower profusely in late autumn. The growths during the season will require a little regulation, but not much. Slightly thinning the shoots may be necessary, and stopping others that are likely to outgrow their neighbours. It is easily managed when grown in beds, and only requires to be cut close down to the ground annually any time after the foliage and flowers have been destroyed by frost. Whole beds of such plants are much more effective than a miscellaneous collection of hardy plants filling the same space, some of them always being untidy.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Rock Garden*).—The *Lilium* was so withered that it is impossible to express any definite opinion upon it; so far as could be judged it is a seedling variation from *L. auratum*. *Iberis Tenoreana*. (*W. G.*).—The Carrot is an example of the not uncommon vagaries of form assumed by this valuable vegetable. The plant is *Molucella laevis*. (*J. M.*).—*Ophiopogon Jaburan variegatum*.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (*H. S.*).—*Denniston's Superb*. (*R. M. D.*).—1, *Beurré Clairgeau*; 2, *Beurré d'Amanlis*; 3, crushed beyond recognition; 4, *Beurré Hardy*; 5, *Souvenir du Congrès*; the Apple is *Small's Admirable*. (*A. G. C.*).—1, *Gloucestershire Costard*; 2, *Cox's Pomona*. (*D. M. L.*).—1, *Grenadier*; 2, *King of the Pippins*; 3, *Cellini*; 4, *Yorkshire Beauty*; 5, *Northern Greening*; 6, *Col. Vaughan*. (*F. R.*).—1, *Peasgood's Nonesuch*; 2, *King of the Pippins*; 3, *Warner's King*; 4, *Queen Caroline*; 5, *Uvedale's St. Germain*; 6, *Pitmaston Duchess*. *Beurré Bosc* is undoubtedly correct. (*J. W.*).—1 and 6, probably local seedlings, that never had recognised names; 2, rotten; 3, *Emperor Alexander*; 4, *Sam Young*; 5, *Cox's Pomona*. (*K. K.*).—1, *Warner's King*; 2, *Tower of Glamis*; 3, *Lord Derby*; 4, *Blenheim Orange*; 5, *King of Tompkin's County*.

Covent Garden Market.—October 10th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bush. ...	2	0 to 3	0	Nectarines, doz. ...	1 6 to 9 0
„ cooking, bush. ...	1	6	5 0	Oranges, case ...	10 0 15 0
Cobnuts, doz. lb., best ...	4	0	5 0	Peaches, doz. small... ..	1 0 2 0
Damsons, $\frac{1}{2}$ bush. ...	0	9	2 0	„ doz. good size... ..	6 0 9 0
Figs, green, doz. ...	0	6	0 10	Pears, crate	3 0 7 0
Grapes, black	0	6	2 6	Pines, St. Michael's, each	3 0 6 0
„ white	1	6	3 0	Plums, $\frac{1}{2}$ bush.	1 0 2 6
Lemons, case	10	0	20 0	„ Californian, case	4 0 6 0
Melons, house, each ...	0	6	1 6	„ common, sieve ...	0 6 1 0
„ water, ease ...	3	6	5 0		

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.	
Artichokes, green, doz. ...	3	0 to 4	0	Leeks, bunch	0 1 $\frac{1}{2}$ to 0 0	
Beans, French, sieve ...	1	0	1 6	Mint, green, doz. bnchs.	2 0	0 0
„ scarlet, bush. ...	0	3	1 0	Mushrooms, lb.	1 3	1 6
Beet, red, doz.	0	6	0 0	Mustard and Cress, pnnt.	0 2	0 0
Brussels Sprouts, sieve...	1	6	2 0	Onions, Dutch, bag ...	4 0	4 6
Cabbages, tally	3	0	5 0	Parsley, doz. bnchs. ...	2 0	0 0
Carrots, doz. bnch....	2	0	3 0	Peas, English, bush. ...	5 0	6 0
Cauliflowers, doz.	1	0	2 0	Potatoes, ewt.	3 0	5 0
Celery, bundle	1	0	0 0	Shallots, lb.	0 2	0 3
Cucumbers, doz.	1	6	3 0	Spinach, bush.	2 0	0 0
Endive, score	1	6	0 0	Tomatoes, English, lb. ...	0 2	0 4
Herbs, bunch	0	2	0 0	Turnips, doz.	2 0	3 0
Lettuce, doz.	0	9	0 0	Vegetable Marrows, doz.	0 6	1 0
„ Cos, score	0	6	2 0			

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch	1	6 to 2	0	Lily of the Valley, 12 bun.	6 0 to 12 0
Asters... ..	3	0	4 0	Maidenhair Fern, dozen	
Carnations, 12 blooms ...	1	0	2 0	bunches	2 0 4 0
Cattleyas, doz.... ..	6	0	12 0	Marguerites, doz. bnchs.	2 0 4 0
Chrysanthemums, dozen				„ Yellow, doz. bnchs.	2 0 4 0
blooms	1	0	3 0	Odontoglossums	3 0 4 0
Eucharis, doz.	2	6	4 0	Pelargoniums, doz. bnchs.	6 0 8 0
Gardenias, doz.	1	0	2 0	Roses (indoor), doz. ...	2 0 4 0
Geranium, scarlet, doz.				„ Red, doz.	1 0 2 0
bunches	4	0	6 0	„ Safrano, doz.	1 6 2 0
Gladiolus, dozen spikes	1	0	2 0	„ Tea, white, doz. ...	1 0 3 0
Lilae, white, bunch, ...	5	0	7 0	„ Yellow, doz. (Perles)	2 0 4 0
Lilium lancifolium album	1	6	2 6	„ English, La France,	
„ .. rubrum	1	6	2 6	doz.	1 0 2 0
„ various	2	0	3 0	Smilax, bunch	2 0 4 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz.	12	0 to 24	0	Foliage plants, var., each	1 0 to 5 0
Arbor Vitæ, var., doz. ...	6	0	36 0	Geraniums, scarlet, doz.	6 0 10 0
Aspidistra, doz.	18	0	36 0	„ pink, doz. ...	8 0 10 0
Aspidistra, specimen ...	15	0	20 0	Hydrangeas, white, each	2 6 5 0
Azaleas, various, each ...	2	6	5 0	„ pink, doz. ...	12 0 15 6
Borolias, doz.	20	0	24 0	„ paniculata, each	1 0 3 0
Cannas, doz.	18	0	0 0	Lilium Harrisii, doz. ...	8 0 18 0
Crotons, doz.	18	0	30 0	Lycopodiums, doz.	3 0 6 0
Dracæna, var., doz. ...	12	0	30 0	Marguerite Daisy, doz. ...	8 0 10 0
Dracæna, viridis, doz. ...	9	0	18 0	Mignonette, doz.	8 0 12 0
Erica, various, doz. ...	8	0	18 0	Myrtles, doz.	6 0 9 0
Euonymus, var., doz. ...	6	0	18 0	Palms, in var., each ...	1 0 15 0
Evergreens, var., doz. ...	4	0	18 0	„ specimens	21 0 63 0
Ferns, var., doz.	4	0	18 0	Roses, doz.	6 0 18 0
„ small, 100	4	0	8 0	Stocks, doz.	8 0 12 0
Ficus elastica, each ...	1	6	7 6		



Excessive Infant Mortality.

This is a state of things for which there can be no excuse, and yet people seem to consider that it is by no fault of theirs that so many young animals never reach the completion of their first year. This is an artificial age—everything is forced and hurried; we are not a bit content unless we are “farrader” than our neighbour. In many instances we want to have our cake, and yet eat it. It may be laid down as a general rule, that where infant mortality is excessive there are two main causes. The first may be put down as debility of the parents—too much breeding in-and-in, till the constitution is ruined; like begets like. The second great cause (there are many

minor ones) is overcrowding. It is all very well to talk of increasing your stock, but it is not well unless at the same time you increase your comfortable accommodation. We use the word comfortable, because for the young accommodation which is not comfortable is harmful in the extreme. This applies equally to indoor and outdoor accommodation.

Wholesome air—plenty of it, clean space, dry shelter are all as necessary to young stock as they are to human beings. No coddling, we do not mean that for a moment; but comfort and coddling are two very different things. We have seen coddling in very unhygienic surroundings. Unnatural food is a great source of evil. Perhaps we ought to have said there are three great causes; but really one would think the question of proper food is so simple that no one could make mistakes. Nature provides food for the newcomer; man, wishing in his superior (?) wisdom to supplement Nature, throws everything out of gear.

We all know from sad experience how easy it is to derange an adult stomach, but in the case of adults the derangement may be perhaps easily adjusted; in the case of young stock a deranged stomach generally spells death. We never take up an agricultural paper without seeing queries as to the health of young stock, or rather perhaps we should say the ailments. Every season—and the season of calves seems pretty nearly all the year round—do we hear of much mortality. Scour appears to be the active agent, and we believe that scour is so preventible that it really should not exist in a well-managed herd.

White scour in calves—seldom heard of in foals or lambs unless they be "cade," or hand-fed ones. Why should this be? We do not value the milk of mares or ewes, but we do value the milk of the cow, and greedily wish to annex every drop. The foal and the lamb are not on being dropped instantly taken from their mothers. They, the mothers, are usually in comfortable warm quarters, most suitable for the well-doing of the youngster; they feed, not at stated times, but just when they feel the slightest inclination, a little and often being their motto; the stomach is so small, and by this means it does not get overloaded, and the newly secreted milk being slightly aperient in its nature, food and stomachic corrective go together. Now, only a few happy calves are brought up on the same lines; on farms where this system exists mortality among the calves is seldom to be met with. We have much fault to find with the calf-house; it is usually far from what it ought to be—dark, damp, and therefore cold, and so most unhealthy. The calf is thus predisposed for any ailment. Then comes the feeding; it is not little and often now, it is a great deal and only seldom, and that "great deal" has to be taken in a hurry out of a pail instead of sucked in slowly. We all know how pleasant food produces that sensation known as a watering mouth. The action of sucking excites the salivary glands, and the fluid given out assists the process of digestion. In drinking there is little or no action of the glands, and all the digestive process must be done in the stomach; the stomach not being equal to the task, the great mass of curdy milk must be got rid of somehow, and then diarrhoea sets in, and this diarrhoea or scour is very tiresome to stop; indeed, in most instances it proves fatal.

Now it is of little use dilating on a very common complaint unless one is prepared to suggest a remedy. And our idea of a remedy is this—keep clear of the disease. Prevention is always better than cure, and that scour can be prevented is absolutely certain. Begin at the beginning with this young life; let the little calf stay with its mother in her warm comfortable box. She will see to its being kept warm; her rough tongue will lick the moist coat and dry it, and promote circulation far better than you can do with wisps of straw or hay. She will see, too, that it is fed often, and that it is not robbed of her first milk, called in country parlance "beastlings." This milk is of a decidedly aperient nature, and serves to clear the system. If you cannot let the calf stay with the cow long, at any rate try to alter your plan of feeding; it will make trouble, but better have trouble than ultimate loss.

See that the milk is absolutely sweet and just warm, and let it have several meals a day rather than that immense "swilling" (we can call it nothing better) every twelve hours. Twelve hours is far too long. None of us feels so well after a heavy meal on a prolonged fast. Of course there are occasions when the cow's milk is of too laxative a character, and if she is in bad or even poor health the calf must suffer.

One of the best remedies in case of scour is the old-fashioned castor oil. It is said never to do any harm, and it removes the irritating cause and heals the bowel. There is another fine thing, quite as well known as the oil and equally nasty. Who does not know old "Gregory?"—he lives still in his powder. An eminent "vet" suggests two teaspoonfuls of "Gregory" and one of carbonate of soda with a wineglassful of lime water given morning and night in the milk. If there is much pain, and any appearance of blood in the

scour, add a teaspoonful of laudanum. Mind, once get white scour well established on your premises it quickly becomes an epidemic. In such a case the calf house must be thoroughly cleansed and lime-washed, and treated with carbolic. We have spoken at length on "scour" because it seems to be the greatest foe of the infant calf. We have seen it work so much mischief and heard of more.

Well, as soon as lambs have fairly got hold of Turnips they are practically safe, but it is a critical time for them the days of early autumn. They need much care and change of diet. Cabbages and Thousand Head are the salvation of lambs, and a timely "drink" should a cough be heard is a thing of great importance. If change of pasture is not practicable it is not a bad thing to take a flock of lambs for gentle walking exercise in lanes and bye roads. They pick up oddments, bramble leaves, bits of Elder bush, and a hundred other things which all act as tonic and change. It is a most provoking thing to lose lambs now after the perils of lambing, the expense of summer keep and shepherding.

With October here most foals are either weaned or about to be so. They leave their mothers in good condition, and their future growth depends entirely on the treatment they get during the winter months. Young stock should never be allowed for a moment to cease moving in the right direction. We are fond of early maturity nowadays; and, indeed, it seems the only way to cope with keen competition.

Foals do not want pampering, but they do require plenty of good wholesome food and some sort of shelter in rough weather. There is not much nutrition in grass, and a foal should have as much sound hay as he can eat, and from 3 to 5 lbs. of either crushed oats or grain mixture in which oats figure largely. Breeders of shires think a few beans desirable, but they should not be given in a larger proportion than one-fourth. A handful of finely crushed linseed cake about twice a week will be found useful in regulating the bowels, and also in keeping up the natural heat of the body. If there be no shed in the field where foals are wintered they should be brought up at night. This entails more labour, and we ourselves are more in favour of making a shed, even if it be a rough one. There are days in winter, as we well know, that are more inclement than the nights, and if the shelter is there it will be found the foals will always avail themselves of it. A badly wintered foal gets into such low condition that he is susceptible to all sorts of ailments, his growth is stunted, and it takes a great deal of summer grass to put him into "fettle" again; indeed he may be said to lose some of the most valuable months of his life.

Work on the Home Farm.

With the exception of one afternoon's rain, which would be very refreshing to the root crops, we have had another fine and sunny week. Good progress is being made with Potato lifting, and prospects are improving. Disease has not spread further, and the tubers are not so much affected as the appearance of the haulm had indicated. They are going into store in excellent dry condition, and we hope they will keep well.

The results of the spraying are apparently generally satisfactory; the samples from sprayed plots are both larger in size and sounder than the others. We think spraying will become a general practice. The land is becoming quite hard enough for successful ploughing, and we notice cessation from this work on the part of one or two neighbours. We have not seen any Wheat drilled yet; mid-October is quite early enough for a commencement, and the land has hardly been long enough ploughed.

Where it is too hard to plough, the land which has been turned over should get the chance of a good rolling. The roller is a most valuable help to the Wheat grower. The sowing of Winter Tares must be no longer delayed if they are to be safe from the ravages of birds before winter sets in. There is nothing better than good, short, well-decayed manure for Tares. We drill 3 bushels of seed per acre, and put plenty of weight on the drill coulters so as to get the seed well buried. We think that the generality of farmers are apt to neglect Tare cultivation. Nothing is more useful or profitable to the stock-breeder or cowkeeper, and the crop is highly beneficial to the land.

Some flock-masters are still in trouble with their lambs, as we notice that drenching is still prevalent. Foot and mouth disease is in evidence, there being another outbreak in Wiltshire, and we note that the Argentine Government have prohibited the importation of live stock from England on account of it. This brings home to us the importance of having a clean bill of health, and the necessity of the restrictions used to compass that desirable end.

It may be owing to the price of coals, but we have not come across a set of steam ploughing tackle at work this autumn. No doubt the arable land of the country is in a very good and clean state of cultivation as a result of the cycle of dry seasons, and farmers not being very flush of ready money, they are willing enough to cut out any item of expenditure which they are justified in doing.

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Journal of Horticulture.

THURSDAY, OCTOBER 18, 1900.

The Old Order Changeth.

NOW is the time when we working gardeners are in many cases expected to carry out various changes and alterations. Improvements, we hear them very often called, and doubtless in numerous instances the designation is thoroughly justified. It is obvious to anyone thinking seriously upon the subject, that this, the dull season of autumn and winter, is of a necessity the best period in which to carry out work of this kind. During the next three or four months the pressure of routine operations in gardens is not so heavily felt, though there is usually quite sufficient for all hands to do. It may be true that where a great amount of making, renovating, or remodelling has to be done, it were better if some of the heavier work were performed in summer; particularly is this so where wet clay soils have to be manipulated. This, however, can only apply to the preparation of the land.

From the present onwards as favourable weather serves the work of planting or removing shrubs, trees, either for utility or ornament, and lifting and relaying turf, should be proceeded with. Turfing is an operation which seldom obtains justice in its performance. It must often be done when the ground is in a wet pasty condition, whereas it might be much more comfortably and efficiently carried out in autumn as soon as the rains have made the grass easy to cut and take up. Laid down thus early the turves get well hold before severe frosts occur to lift and displace them; they also bind, and will often improve so quickly under the mild autumnal rains and weather conditions, that a pleasing lawn results before spring is with us, bringing the cutting and attendant duties.

Some people may prefer planting trees or shrubs in very late winter or early spring.

During FIFTY-TWO YEARS the "JOURNAL OF HORTICULTURE" has been written by Gardeners for Gardeners, and in its principles, its practice, and its price it still remains the same. One alteration is perhaps, however, necessary. Our modern methods of production have rendered the price old-fashioned, and hence in order to meet the wishes of the present generation of Gardeners the "JOURNAL OF HORTICULTURE" will hereafter be sold for TWOPENCE instead of Threepence.

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However correct this idea may be, it will be found necessary, when a great quantity of the work has to be done, to start as soon as trees and shrubs are available, together with the labour so indispensable for carrying out the work. To the thoughtful person there will have come, before the time is at hand for action, many reflections as to future requirements in the shape of materials.

No gardener should think of laying down turf without having previously ascertained the number of turves that will be required; nor will the planter who gives serious attention to the matter fail to measure his ground and calculate the requisite number of shrubs or trees. These are subjects which must not be left until the last moment for decision, if so it can scarcely be expected that satisfaction between employer and employed will result. In planting variegated and golden-leaved shrubs for immediate effect it must be borne in mind that rather close planting may be an advantage for such a purpose. In any case we must learn to look before us, and not wait until the time comes for commencing operations. We must use forethought, the gardener's special friend, for without the faculty to look ahead few can expect to rise in the world of gardening.

Apart from the changes that fall to his lot in carrying out his ordinary duties, there are others to which the gardener is liable, that are not peculiar to any one season. It may be his first experience of these comes to him when in the embryo stage. Some old and well-worn "head" finds that he must vacate the stage, and make room for a stronger and younger player. Then may come new rules—new regulations in many things, some not readily acceptable to the impulsive and the young. Sometimes in such cases the rules, once strictly enforced, have become relaxed under the old "hand," and the newcomer finds it hard to pull things together. There may be in the process of shaping matters to the desired order a certain amount of friction, which has again led to changes and alterations.

In penning these remarks I can recollect several instances where, under a new chief, relations with subordinates have stretched to the breaking point. And it were well to remind young men that though their knowledge may be extensive and peculiar to one or two gardens, yet the accumulated experience of the chief gained in many parts of the country, and in many and various establishments, is bound to be of a wider and more diverse character than their own. Head gardeners, too, might remember (and in truth many of them do) that their helpers should be dealt with as tactfully as possible, in order to get the best of each individual's ability.

With these thoughts come others of a deeper nature, involving far more serious issues to our fellow craftsmen. "The old order changeth," has been quoted many times, but never more aptly than in connection with the changes and alterations which have taken place in many gardens during the last few years. Places have been heard of and known where the gardener might be said to have a life tenure of his situation. But these alterations! Many men in good positions have found themselves face to face with the prospect of a reduced staff and a lower wage, or being for a time amongst the

"outs." This latter has been the preference of some, and there are not wanting instances of those who have never got back into harness again. During late years there appears to have crept into private gardening an element of commercialism which was lacking in the days of old. Through this spirit we may have gained an increased output. More plants, more flowers, fruit, and vegetables may be grown; but we lose something, despite the decorative efforts of to-day, in the absence of those grand stove and greenhouse plants of the old practitioners.

Why do many owners desire so great a return for outlay? Not always for the mere sake of gain, one would think. Surely there are trade emporiums enough, without so much that is best and noblest in the traditions of gardening having to be sacrificed for the sake of a profit and loss account? It is well to be business-like, and alterations should be conducted upon this basis, but there might be found some course intermediate between the means provided and the supply demanded in many present day establishments. "We must have more plants and flowers grown," says the lady; "And more vegetables," remarks the master; "and can't you grow more fruit?" "You must also keep the expenses lower another year." Thus between the lack of provision for ways and means and the generous demand, the poor gardener falls, to make room for a successor, who in his turn fails. Change succeeds change, and not only gardeners but gardens suffer. Small wonder is it if so little of the old style is seen of continuity of service. The writer's own experience has not been narrow, and in some respects none too sweet, but the less said on this head the better, as his lines have for some years fallen in pleasant places. I have, however, seen enough to know that though gardeners are in many ways to blame, they alone are not the cause of the unstable conditions which prevail, and which are only too patent to a keen observer.

I may be pardoned for adding to a lengthy, and, perhaps, discursive paper, some remarks touching another phase of alteration in the gardener's existence. A man gives his best years to his calling, and the time surely comes when he must stand aside for those having youth and strength. Well for him is it, if in failing health or the limitations of old age, he finds himself in good hands, and those whom he has well and faithfully served, willing to provide the necessities of life for his few remaining years. Very often such an arrangement is impossible, and then is seen the wisdom of those who have invested in the funds of such a society as the Gardeners' Benevolent Institution. In this most admirable society is solved for the gardener the problem of old age pensions; if he will but exercise a small amount of self-denial for a few years, here is found provision not only for his own declining years, but it may be also for those left behind alone. Could they not, too, by a self-denial that is, in certain circumstances, nothing less than noble, find the necessary weekly pence that would insure the education of their children? Who giving a thought to the future will not spare those few shillings a year in providing for their own or some fellow creature's benefit in that time to come when alterations in circumstances and changes in position are liable to fall to the lot of everyone of us?—J. W. J.



FIG. 96.—ODONTOGLOSSUM WATTIANUM.

*Odontoglossum Wattianum.*

THE typical form of *Odontoglossum Wattianum* was shown by Messrs. F. Sander & Co. in 1895, when it received a first-class certificate from the Royal Horticultural Society. On that occasion we illustrated it with the accompanying note:—"The ground of the sepals and petals of this Orchid is yellow, the brown spots and mottlings being very heavy. The lip has a white margin, pure in the front, splashed with purple towards the throat. There is a purple blotch in the middle of this organ." We reproduce the woodcut (fig. 96) and reference at the request of Mr. de Barri Crawshay, who has succeeded in raising *O. Wattianum* in his garden at Sevenoaks. At the time of its first being shown Mr. Crawshay's views as to the parentage were not shared by other experts, whereupon he undertook to prove his opinions. This he has now done, and the result is a great tribute to his keenness of perception in relation to the parentage of *Odontoglossums*. Mr. Crawshay has kindly sent the history of *Odontoglossum Wattianum* *Crawshayanum*, which might more correctly be *Crawshayi*, and this we give below, together with an excellent reproduction (fig. 97) of the hybrid.

O. Wattianum Crawshayanum

The history of this R. sefield hybrid is as follows. The flowers were crossed on September 12th, 1894, and the seeds were sown on August 1st, 1895. A spike of nine blooms was produced on the third bulb on August 24th, 1900. The plant is of extremely strong habit, and made the largest first bulb I have ever seen on any *Odontoglossum*, it being $2\frac{1}{2}$ inches high, 2 inches broad, $\frac{7}{8}$ inch thick. Compared to the bulbs of imported three-bulbed plants it is a veritable giant, as each is larger than its forerunner, and the rising growth promises a still larger one. It has decided the much vexed question of the parentage of the natural hybrid introduced by Mr. Sander in 1889. The original plant was bought by and dedicated to the late T. R. Watt, Esq., of Chislehurst; when bought at his sale it was in very weak health, and despite the great care given it by a skilful amateur, it died.

The following certificates have been awarded to this rare hybrid: all three to Mr. Sander:—*O. W. Hardyanum*, May 25th, 1893, Temple Show, A.M.; *O. W. superbum*, August 23rd, 1894, Drill Hall, A.M.; *O. Wattianum* August 13th, 1895, Drill Hall, F.C.C. Baron Schröder owns the first and last of these plants. Curiously enough after two varieties taking A.M.'s the type takes F.C.C.

I can recall stating at Temple Show on May 25th, 1893, that *Harryanum* was a parent of the plant, and that I would prove it be so with the aid of *Lindleyanum*. I have had that satisfaction. Mons. Jules Hye has had the honour of showing the grand hybrid from *Harryanum* \times *luteo-purpureum* at Temple Show this year. At last, after many years of secrecy of those who knew, the habitat has been published of *Harryanum* as *Varumal* in Antioquia. The commercial value could have been no incentive to keep it in such extraordinary darkness.—DE B. CRAWSHAY.

Phalænopsis violacea.

THE scapes of flower produced by this Moth Orchid cannot compete for size or showiness with many of the species included in the genus, but few are more refined and beautiful. Of dwarf yet stout habit, the plants are ornamental either in or out of flower, the dark shining leaves being very attractive, and when contrasted with flowers exceptionally so. The spikes usually contain about three or four flowers, these being individually about 2 inches or a little more across. The pretty bright violet purple centre of the blossom shows up well against the clouded white of the sepals and petals.

Like most dwarf *Phalænopses*, *P. violacea* is easily incommoded by

ill-considered treatment, but if anyone will bring a little thought to bear upon it no great difficulty need be feared. Flowering now, the roots are very apt to be distressed by want of water, and unless the atmosphere is kept pleasantly moist to the last the plant loses strength that is not easily regained during the succeeding dark winter months. It is by no means necessary to soak the compost out with water, but apply it judiciously, and see that the roots are allowed to get a little on the dry side before giving a fresh supply.

Something must be done, too, to consolidate the growth at this period of the year, and ample light without scorching the foliage is absolutely necessary if the plants are to come through the winter safely. It is bracing and invigorating to the plants to have as much air as possible, consistent with the proper temperature and moisture being kept up, moving about them. Plants so treated are not nearly as likely to contract the dreaded spot and kindred troubles as others kept in a very damp and enervating atmosphere up to the time the temperature is lowered for the winter season.

In spring, say in April or May, the plants require attention to the compost, a little new moss being dibbled in here and there when they do not need rebasketing or repotting. Those that do must be treated with caution, for nothing is more injurious to established *Phalænopsids* than rough treatment of the roots. When the plants are doing well the baskets in which they are growing may sometimes be placed entire in a larger new one, but this is a matter for consideration individually. The decayed wood must always be removed, and a large shift to a weak plant is very injurious.

Odontoglossum Schleiperianum flavidum.

To lovers of bright colours in Orchids this variety may not appeal so strongly as does the typical form, but it makes a change, and has many attractions. The flowers are paler in ground colour, and the blotches or spots are more of an orange than a brown tint. It thrives under similar conditions, and after flowering is the better for a rest in a rather drier and slightly warmer house than that usually advised for wintering *Odontoglossums*. Good peat and moss in a rough state is the best compost for it, and the drainage must be very free and open.

Cattleya Eldorado Wallisi.

This is a little gem among *Cattleyas*, and a charming autumn flowering variety. In some forms sold under the name the pure white of the segments is marred a little by a purplish or mauve tint that becomes more decided as the flowers age, but it is a beautiful thing in any case. Not a strong grower, it is advisable to keep it rather pinched for pot room than otherwise, but the *Cattleya* house suits it well, and in all other respects so does

Cattleya treatment. It is a native of the Rio Negro district, and is not very plentiful.

Cypripedium Spicerianum.

There are few of the *Cypripedium* species more beautiful than this fine plant, and fortunately it is cheap enough to be within the reach of all growers. It is very easily grown, and not so fastidious with regard to temperature as are many others. The best of all positions for it is a moderately shady part of an intermediate house—shade if possible from the leaves of other plants rather than from thick blinds or permanent shading of any kind.

The compost for *C. Spicerianum* may with advantage be more substantial than is usually advised even for terrestrial Orchids, and I have known instances of very successful culture in almost clean loam, a little charcoal, chopped moss, and crocks being added. But the drainage must be exceptionally good in this case, and only strong plants would stand such a liberal compost. Weaker or badly established specimens would be better in peat and moss for a time, and may be slightly elevated in the pots, this not being necessary with the stronger ones. A native of Assam, *C. Spicerianum* is named after Mr. Spicer, a tea planter, who originally sent home plants of it to his mother in England. Stories are current as to much innocent sharp practice by collectors of various nursery firms who attempted to find its habitat. That they were successful in their search goes without saying, and few Orchids have so quickly dropped in price as did *C. Spicerianum* soon after.—H. R. R.



FIG. 97.—ODONTOGLOSSUM WATTIANUM CRAWSHAYANUM.

Autumn and Its Work.

AUTUMN has so far this year dealt kindly with us, for the glorious sunshine and crisp, yet balmy air have seemed to make the earth smile with gladness, and have given to the shortening days a lingering touch of summer. Ere long the leaves will come down in shoals, and rob our landscapes of the lovely tints of autumn, which remind us of the approach of winter's dreary days. Dreary indeed to the toilers in the noisome cities, but to the gardener, whose life is full of activity and change, each day seems too short to accomplish the many details of work which need attention.

In the fruit garden and orchard the present season is a busy one, as after the crops have been gathered pruning should be pushed on with all possible speed, as such work can be more quickly performed during mild than in very cold weather; and, moreover, the sooner all surplus shoots are cut away, so as to give full exposure to the branches retained, the better will be the prospect for next year's crop. In orchards there is usually much thinning of the branches to be done. Some branches which have become old and stunted may with advantage be cut away to make room for young shoots, which should always be found in healthy trees. One great advantage of the extension system of pruning is that it is an easy matter to keep trees continually furnished with good bearing wood. When the branches of standard trees are kept closely pruned so as to resemble a number of cordons the lower part of them seldom crops well, however thinly disposed they may be. On the other hand, when a standard tree is formed of a great number of small branches which run out in all directions, during a fruitful year almost every twig will be laden with fruit, the balance of the tree is easily maintained, and there is always plenty of blossom-bearing wood to select for retention at pruning time. For the above reasons I am a great advocate for that style of pruning, which keeps trees furnished with abundance of comparatively young branches, which, if left unshortened, quickly become fruitful, and are far better than a number of older branches on which the side shoots have been closely pruned.

Trees on walls and bushes and pyramids on dwarfing stocks at this season need attention in the matter of root-pruning. Those which are growing too strongly should have a trench taken out at from 2 to 4 feet from their stems; the strong roots can then be severed, and as the trench is filled in they should be brought up near the surface. With a little attention of this description every three or four years restricted trees can be kept in splendid condition, in regard to the production of short jointed fruitful wood instead of strong sappy shoots. Plenty of fibrous roots are what the fruit grower tries to secure, as he knows perfectly well that they are the forerunner of fruitful wood.

Half the trained and closely pruned fruit trees in Britain which fail to bear satisfactory crops could be rendered fruitful by due attention to root-pruning, and the addition of a little fresh sweet loam. Such work having been completed, attention can be paid to the pruning and nailing of the branches, except in the case of Peaches and Nectarines, which should not be pruned till the spring, but in their case I like the old yet excellent plan of unnailing the shoots, so as to let them hang loosely from the wall, as when so treated the exposure insures perfect wood ripening. Tree planting should, as a matter of course, commence early in November, but to deal with the matter fully more space is needed than can be given in this article. I therefore hope to take up the matter shortly.

In other departments of the garden the autumn brings abundance of work. In the flower garden the great work of removing the summer occupants, digging and manuring the beds, and replanting them with bulbs and spring flowering plants, requires much attention whenever the weather is favourable. There is also no better time in the whole year than November for lifting and replanting Roses. When bushes are grown in beds or borders they need lifting every three or four years to prevent them from throwing very strong shoots, which do not flower till late in the season, for although Roses are gross feeders, a check is necessary when they are continually pruned hard to keep them dwarf, but where they can be allowed to develop into large bushes lifting is not necessary, although the practice of removing some of the old soil and substituting fresh loam is a beneficial one.

Any alteration contemplated in the flower garden or shrubberies may also with advantage be carried out in autumn, as when turf has to be relaid it becomes well established by the spring, and is not

likely to suffer should hot weather prevail in early summer. In making new walks, or tearing up and relaying old ones, the work should if possible be done in autumn, as by using the roller frequently after the heavy rains of winter the whole mass becomes thoroughly consolidated, and does not crumble and get loose during the summer. There are few things more troublesome in a garden than walks which get rough and unpleasant to walk upon during dry weather, and soft after heavy rains. To avoid such nuisances plenty of rough material must be placed in the bottom and made firm, and then finished off with fine binding gravel. Then if there is a slight fall from the centre to the sides, and a proper system of drainage provided, a hard firm walk is the result, as the rain runs off the surface instead of sinking through it. This reminder may perhaps prompt some who have troublesome walks under their charge to "tackle" them at once, while the weather is favourable.

The clearing up of leaves is a work of considerable magnitude in all gardens during autumn and early winter, but in unfrequented parts it is often possible to save much labour by allowing the bulk of them to fall before clearing up is attempted. Such economies are now necessary in a great many gardens, and when practised they enable the manager to devote the necessary attention to any alterations in hand.—H. D.

Moisture for Fruit Trees.

THERE can be little doubt that much of the non-success in obtaining a crop of fruit from otherwise healthy trees lies in the fact that the roots are ramifying in dry and impoverished soil, especially in situations where the ground is shallow and more than ordinarily well drained—that is, naturally drained. Old-established trees and bushes are probably the worst sufferers in this respect. Years of growth, extension of roots and branches, heavy crops of blossoms, rank growth of branches and spray, and inadequate supplies of root moisture, have resulted in feeble and deficient crops. With such trees, provided the branches are well thinned out, nothing is so effective as a remedial agent as moistening the soil. This may safely be done in all cases where good fruit trees are barren from no other explainable cause than that of sheer want of moisture and food. Fibrous roots cannot extend and multiply in soil destitute of moisture. The latter must be present in order that the dormant or reserved food constituents in the soil may be made soluble, hence available for the roots.

In these notes I wish to direct attention to this rather important matter in connection with fruit trees. Many old trees of good varieties have been condemned as worthless, which by a course of recuperation with the aid of water and liquid manure could have been much improved in regard to fruit bearing, and by continuing the same treatment the quality of the fruit enhanced in future years.

Wall fruit trees are prone to suffer from lack of moisture in the subsoil. It will cause mildew on outdoor Vines, red spider on Peach and Nectarine trees, and a general feebleness in Pears, Plums, and Cherries. All forms of fruit trees growing in the open also feel the pinch, especially restricted bushes, pyramids, and cordons. Indications of insufficient support can be easily seen. The foliage is undersized, thin, and devoid of a good supply of green colouring matter, while should there be any fruit it will lack size, be hard and woody, and fail to ripen at its proper time.

At this season, therefore, when crops for the most part have been, or are about to be, gathered, an attempt should be made to moisten the whole area of soil occupied by the roots, giving sufficient to penetrate well below the lowest strata of roots. If it is absolutely a certain fact that the soil is extremely dry this first and thorough moistening should be clear water. Follow this by affording an equally generous supply of liquid manure. The virtues and excellent feeding qualities of the latter will be retained in the moist soil, affording valuable food for the roots to work upon. Several applications of liquid manure may be given during the winter, and to such trees as have been described it could scarcely be applied too powerful, experiments having proved that liquid manure may be given to fruit trees stronger in winter than in summer. The liquid most suitable is sewage, stable and cow-house drainings, mixed with or without soapsuds.

Young trees, if not fruiting satisfactorily, should not be recuperated by strong stimulants, the application of such probably causing a stronger growth than desirable. In addition to the assistance rendered the roots the proper pruning of the trees must not be omitted. Should the trees have been neglected in the special manner of pruning adapted to them, proceed gradually in the thinning or shortening required.—E. BARROW.

Ammoniacal or Gas Liquor as a Manure.

(Concluded from page 243.)

MANY gardeners are in need of something to kill the moss on lawns and render the turf deep green. Gas liquor will generally do both, brown the grass for a time and then induce it to become greener and thicker. It will also kill wireworms, rosechafer grubs, slugs, and worms. The time to use it is about the middle of February, choosing a period when the family is from home, on account both of the smell and of the brownness of the grass. If used in autumn the grass looks brown most of the winter, hence it is not recommended after early September, and even then the grass may grow so late as to have the tender blades nipped by frost. There are occasions, however, when gas liquor may be advantageously applied to lawns in summer, such as when grubs are playing havoc with the roots of the grasses. A thorough watering with gas liquor solution will end such pests, and the grass will thrive all the better for the riddance and manure. The liquid is easily distributed by Boulton & Paul's hand water cart with spreader.

Flower Beds and Borders.

About the middle of February a good watering with gas liquor, diluted with five times its bulk of water and distributed through a rose, will do much good, killing any slugs then feeding on the tender buds and roots, also other pests. I do not know of any plants in a dormant state it will injure. Young tender growths are, however, like grass, liable to be browned; and also, like it, spring again all the stronger, for it cannot react except as a manure. Pour the liquid between plants where it is not considered advisable to wet the shoots, and look for it again in invigorated growth and finer flowers. Use it over bulb quarters when the bulbs are dormant, but shortly in advance of their starting into growth. It kills root mites, basal rot fungus and bacteria, dipterous fly maggots, and grubs of all sorts; better, it enriches the soil, stimulates root action, and nourishes top growth. It will not hurt any kind of plant or shrub, unless very delicately hair-like rooted, such as American plants. Before planting beds or borders previously water with a solution of gas liquor, for that is the way to kill or drive out vermin, and to enrich the soil with ammonia. Be careful to let the soil fix the ammonia, the microbes to seize it, and convert it into nitrates of lime, potash, soda, or even alone into nitrate of ammonia.

Orchards and Fruit Quarters.

Gas liquor has a peculiar fitness for mossy, dead bottoms, and coarse grass. It kills the moss, rots the bottoms, browns the coarse grass, and if there be any grubs or pests in pupæ form their fate is sealed. Try an application in February, diluted two-thirds if very rank in moss and coarse stuff, if short and bare dilute with five parts of water. It would have been better if 10 cwt. per acre of basic slag had been used in early winter on heavy land (or if light, bonemeal 5 cwt.), and kainit 5 cwt. per acre, or if heavy land $2\frac{1}{2}$ cwt. of double sulphate of potash and magnesia, then the gas liquor solution at the middle of February. No harm will be done if the dressing be repeated in June, only do not use the liquor stronger than five times diluted.

In fruit quarters as in orchards early February is a good time to apply gas liquor diluted with five times its bulk of water, for as there are no weeds, or ought not to be many, there is nothing for the "vinegar" to act upon; still the acetate will yield up its ammonia to the microbes, and the acid acts in their behoof in furnishing them with lime, potash, and other rock substances. It is not wise to apply gas liquor solution to trees after they have started into growth, at least not when they are pushing their young rootlets, for they are then very tender and soon injured. After the crop is set and swelling watering with the liquor still more diluted—about ten times—is of essential service; but I do not consider it advisable to use gas liquor after the fruit is half-grown. It may, however, be applied to stunted trees early in July, as there is little danger of inducing a late growth.

Kitchen Garden.

On bare land the gas liquor may be used after the crop has been cleared and before digging at any time of year, for the ammonia does

not run away. Its use for winter crops is not advisable, as the ammonia makes them tender, and even to growing crops its use after July is not commendable. I got a lesson by watering Brussels Sprouts with it up to late summer, it being poured between the rows. They were splendid in growth and "button," but the heads and the sprouts were blackened by the first severe frost. Use it in spring on land before sowing seeds or setting plants. It will cleanse the land from filth and benefit the crop in its growth. There may be cases where it is desirable to use it during the growth of the plant, then pour it on the soil, not over the tops, or if over these dilute twelve times. It must be kept from all things that have shortly to be used for food. Application to the soil is quite a different affair, and even there may taint some things in dry periods.

As an Insecticide.

For American blight gas liquor is a perfect cure, applying diluted two-thirds with a brush as soon as the leaves have fallen. If the trees are affected at the roots remove the soil, dress them and return the soil. The liquor has been used on the foliage, about half a pint to three gallons of water. On older or fully developed leafage a pint may be added to a three gallon can of water and syringed in. This acts well on red spider and other pests on forest trees and shrubs, but I do not consider gas liquor very desirable for application to fruit trees unless dormant or at least early in the season, so that the rains may wash off any settlement.

Ammoniacal liquor may be mixed with charcoal dust, sawdust, or peat, then, after decomposition, dissolved bones being added, an excellent manure is made for Potatoes, to be used at the rate of a handful to a good run of drill. At times strawy material accumulates, and though it may be rotted in time it has no great fertilising value. If such material be saturated with gas liquor, about a gallon being required for 3 lbs. of litter, and the heap covered with sods or peat, a rich compost will result, as violent oxidation takes place, the heat rising to over 212° , so the debris of haystacks and haylofts and chaff give no trouble as regards weed seeds, and the heap in a month may be carefully turned over with a fork and again covering the heap with loam. When the fermentation ceases and has been well managed a rich compost will be the result, as

the chief substances evolved and given off are carbonic acid and watery vapour. In about four months the mass will have the appearance of about half-rotted black manure.—G. ABBEY.



FIG. 98.—APPLE RIVAL.

Apple Rival.

In the autumn of last year Mr. Chas. Ross, gardener to Captain Carstairs, Welford Park, Newbury, presented to a meeting of the Royal Horticultural Society the excellent new Apple Charles Ross, which received an award of merit and subsequently a first-class certificate. At the great show at the Crystal Palace Mr. Ross again came forward and showed in the any other variety dessert class Apples The Houblon and Rival. Both of these were again staged at the Drill Hall on the 9th inst., and the latter was recommended for an award of merit by the Fruit and Vegetable Committee. Apple Rival (fig. 98) is said to be from a cross between Peasgood's Nonesuch and Cox's Orange Pippin, and its exceptionally handsome appearance should insure for it a ready welcome for market purposes. The flesh is creamy white, soft in texture, and of moderately good flavour; in this respect it has favoured Peasgood's Nonesuch more than we could have wished. The eye is large, wide open, with broad sharply pointed segments that reflex abruptly at the tips; it is set in a wide, very deep, and puckered basin. The tube is funnel shaped, and the stamens median. The stalk is half an inch long, and very deeply inserted in a broad green lined cavity. The colour is bright red splashed with crimson on the sun side and rich yellow on the shaded side.

Some Good Azaleas.

MANY thousands of splendidly grown Azaleas are imported annually from the Continent, which, with a little attention, will amply repay the cultivator. The plants reach us out of pots, and so the most suitable size will readily suggest itself when they are unpacked, and I have invariably found that for the first potting they should be only large enough to accommodate the roots and allow of a little new compost being added.

Thoroughly drain the pots, and have a compost of good fibrous peat and rough silver sand ready, placing the rougher pieces of the peat over the drainage. Take the plant and press the root into the pot until the surface is half an inch below the rim, afterwards filling in carefully between the roots, making the compost firm. Water moderately and place in a house or pit where frost is merely excluded, giving air on every favourable opportunity. If water was given in the first instance very little will be required during the winter months, as frequent applications at that period of the year, when the roots have not the slightest hold on the new compost, often lead to leaves falling and buds turning brown. One thing that cannot be too strongly impressed is the necessity for immediate attention on receipt of the plants, for if they are allowed to remain until the roots and soil get almost shrivelled, no good results can reasonably be expected. I have before me a list containing about 200 varieties, and to anyone unacquainted making a selection the task becomes a difficult one indeed.

With a view to assisting those growers who have not much experience with Azaleas, I have made a selection which will be found of much benefit to cultivators, the selections being so that the whole or a portion may be ordered without fear of clashing. In whites, *Deutsche Perle*, the earliest white; *Pucille de Gand*, extra fine; *Mdlle. Marie Planchon*, semi-double, snow white; *Bernard Andreas alba*, strong grower, double white, fine for Eastertide; *Reine du Portugal*, double white, fine; and *Souvenir de François Vervaene*, white, splendid forcer, flowers excellent for wreaths. Good striped varieties include *Apollon*, large, white faint pink stripes; *Baron de Vrière*, snow white, banded poppy red, yellow blotch; and *Elise Lieber*, whitish, regularly striped violet with greenish veins. I find the best rose and red coloured are *Madame Van der Cruyssen*, lively rose, crimson blotch, fine, one of the best for forcing; *Memoire de Louis Van Houtte*, enormous flower, brilliant rose with bluish reflex, upper divisions deep carmine blotched; *Phœbus*, a peculiar shade bordering on orange vermilion; *Dr. Moore*, lively rose, white and violet reflex, fine; *Empereur du Bresil*, double rose, washed and striped with deep rose and white. Of varieties with a white margin, *Vervaeneana*, very handsome; *Souvenir de Prince Albert*, double rose, edged pure white, an old variety, but one of the best; *Impératrice des Indes*, salmon rose, festooned white and dark carmine; *Comte de Chambord*, salmon rose, striped and bordered pure white; *President Oswald de Kerchove*, semi-double pink edged white, carmine blotched; and *Comte de Paris*, single, round petalled pink, broad white edge are excellent.—R. P. R.

Gardening in Western Canada.

DEAR L—,—We often talked about gardening when we were in London together, and I owe many pleasant thoughts to your kindness in sending me seed catalogues, plants, and packets of seeds. There is no plant you can find in a catalogue of any of the great English seed-growers that would not do as well, and even better, in a well-tended state in British Columbia; but it is so difficult to get the labour required that it is absurd to say that a British Columbian garden is as enjoyable as any moderate-sized garden in England. I think the plan of those who love flowers should be to select vigorous, audacious, and self-asserting flowers that will resist the vigour of the weeds which are, in many cases, garden flowers in England. It is true that here "many a garden flower grows wild," though never, from the time of the Creation "here a garden smiled;" and some of these weed flowers are terrible tusslers for their rights of precedence. Lilies, such as *Turk's Caps* and a blue Lily, are wild, and I expect in a year or two we shall have the Shirley and other garden Poppies wild too. There are no wild Poppies yet. Then the colour you can revel in in any London park in August can only be obtained in a rough way with Phloxes, Poppies, and heaps of Iris, which do gloriously. I can stroll into the roughly laid out flower borders of the experimental farm here, and if the flowers that triumph there had the advantage of a setting of smooth turf and neatly rolled gravel walks, the effect would be sumptuous. I have always, like you, loved flowers individually for themselves, and each flower has an association of ideas for me. I have seen them in the borders of many old gardens

with the Cabbages just out of sight and the Currants and Gooseberries as a background. I know gardens that have been gardens almost as long as the gnarled Oaks that stand by their gates have been growing, and know the smart Italian gardens that were laid out when I was a boy; but you cannot vulgarise the old-fashioned or the new-fashioned flowers, or the Paigles that Chaucer saw growing in the orchard at Woodstock, or any of the dear things that marked the changing seasons in our mothers' gardens.

I am trying to make a garden on a bit of ground that was really forest *primaeval* the year before last. The huge stumps and the small roots mean work and fatigue to clear away, and the trees we have left standing from the forest are too tall to be very useful for shade; but it is better to have these than none at all, and we notice that they are thickening out and getting more shapely now that they are left sole possessors of the light and air. Maples with huge leaves (not Sugar Maples), Nuts, Alders, and Birch; one fine Birch tree was cut down before I came, and it has taken horses and much labour to move the fine trunk from the garden plot. I never saw such large Birch trees. Then I have left all the clumps of stumps and wild shrubs of flowering Raspberry and Elder for the present in the outer verges of the garden, and with a huge scoop or scrapper with harrows, and lastly with rakes, we have made the lawn. For the present I have cut out the beds round this unevenly shaped enclosure, and I sowed the grass and filled the beds with the annuals you sent me, and with others bought at the village store. I am now occupying myself "going" violently for weeds, and setting the collie to drive out the hens without hurting them, and he enjoys the chase as much as the old hens like the lawn grass seed. I have some Lilacs, Laburnums, and some other English trees, but Laurels and Laurustinus are no good, for once or twice in the winter there comes a wind down the valley that bites the very life out of some tender evergreens. The small Cedars are lovely, and make thick edges if they are well clipped. In due season all over the farm we can find these seedling Cedars, and if transplanted in September, or even in August, they will make a good show the next year.

You would be delighted with the bulbs here. Tulips have only to be left from year to year, and all the Hyacinths flourish. I have not got my first Phl x or Lilies, but when I do will enjoy the sight, and the colour will excel the wheel window of Winchester Abbey—I mean the north wheel when the sun is setting at midsummer. Then I ought to talk to you about Japanese shrubs and Firs. We have in British Columbia many lovely shrubs; one, the Dogwood, is really grand. I have seen trees 50 feet high covered from the ground with large white single Camellia-like flowers for a month; and then the Spiræa are beautiful, and some of the tribes have been so brilliant with huge red blossoms, and the Berberis when fully grown is a fine flowering shrub.

But the Japanese shrubs do grandly here, and as I can afford them I hope to have a garden with such rare things as the Mikado and his Daimios have. It is not fair to be invidious, as any of the large British nurseries can send every kind of bulb, root, or shrub; all that is wanted is the ready cash to pay for the goods-carriage, and I must add the duty, for the Canadian nurserymen have brought their trade to very nearly as good a state as that of England by hard work, and they think they protect their interests by having a duty placed on all British nursery stock. You know I am not of the same opinion, though I am too new a resident to be sure. The Canadian catalogues I sent you show that they run the British grower pretty close; why do they not beat him in quality and price? An Hungarian neighbour of mine has set me up with some dear old-fashioned herbaceous flowers and Moss Roses. I am going to get lots of his Phlox and Tulips, and the hundred things that stand out all the year at home.

I ought to tell you about the far more important matter—our kitchen garden, which is already a success. Last we grew the vegetables just where we could find a patch free from the stumps, nettles, and other flowering wild shrubs, and grand were the Cabbages. Peas, Beans, and Cauliflowers we had till December 15th, when a cold snap came and we had to fall back on our store of Potatoes and Carrots, Beetroots, &c.; but now behold a neatly fenced square kitchen garden without a stump or weed in it, with soil like that our old gardener used to collect from under those old trees in our pasture and mix with all sorts rich "amendments" from cow byre and stable. The only thing this new garden wants is lime; nearly all the seeds are up, and the Strawberry bed beats the one at G—. I have no Asparagus yet, but my neighbour has three fine beds. When you come we will refresh you with Melons, which do well here outdoors. I mean those netted Melons that we had to give 2s. 6d. for in London. I have rows of Raspberry canes, Blackberries (American); the Currants and Gooseberries I planted too late to be of any use this year.

Of course first efforts look very rough, and would raise a large smile on the face of any old English gardener, but if he looks again in a year or two he will see that gardens grow better and faster here than they do in England. The real danger here is lest flowers become weeds, and lest vegetables overgrow themselves.—A. H. OUTLOOK.

NOTES & NOTICES

Recent Weather in London.—The weather has turned much more autumn-like of late. On Sunday a north-east wind blew persistently, changing at intervals to squalls of wind, rain, and hail. On Monday it continued bitterly cold. On Tuesday it was milder, and on Wednesday morning rain fell for some hours.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, October 23rd, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "Mistakes in Orchard Management," illustrated by limelight, will be given by Mr. John Eittle, F.R.H.S., at three o'clock.

Royal Horticultural Society—Presentation of Bamboos—Plants for Trial.—Mr. Gauntlett of Redruth has presented a collection of thirty-four hardy varieties of Bamboos to the society. The Essex County Council have presented one of their Technical Committee students to a scholarship, tenable at the society's gardens. The following are the subjects appointed for trial at the gardens during the season 1901-2—viz., Verbenas; Hybrid Tea and Hybrid China Roses; Delphiniums; herbaceous Lobelias; German Irises, with a view to the correction of nomenclature; new varieties of Potatoes; new varieties of Peas; summer and autumn Cabbages; and plants suitable for salads.—W. WILKS, *Sec.*

Horticultural Club.—The first conversazione and dinner for the session 1900 and 1901 took place on the 9th inst., and was very successful. The chair was occupied by Mr. Harry J. Veitch, vice-chairman of the Club, and there was a good attendance of members. An interesting address was given by Mr. George Bunyard, V.M.H., on the fruit crop of 1900, which drew forth an animated discussion on various matters connected with the subject. It was admitted on all sides that never in the present generation had there been such an extraordinarily overflowing crop, which had entailed considerable labour on the wholesale dealers in Covent Garden and elsewhere, and the grievances of fruit growers were largely dwelt upon. The chief of these was the unreliableness of the railway transport; advices were sent from growers to say that their products had been sent off and the consignees expected to receive them in due course, but they were sometimes four, six, and even eight hours late. One of the members stated that a project was on foot to establish an automobile system which would pick up the fruit and convey it to its destination without going near the railway; this elicited warm approval. Instances were given of the terribly low price at which Plums and other fruit had been sold, and it was considered by many that it was a great pity such an enormous crop could not be better utilised. A cordial vote of thanks was given to Mr. Bunyard for his excellent paper, of which we hope to give an abstract later on.

A Gardener's Holiday.—I spent my annual holiday this year at Edinburgh, arriving there on the night prior to the great show which was worth a long journey to see. I was much struck with the appearance of the new black Grape Diamond Jubilee; I feel sure it will soon occupy a leading place in vineries. I had also the pleasure to meet Mr. Arnott, who is so well known to every reader of our Journal. He kindly took me to Rosedene, but I do not feel equal to the task of describing that splendid garden. I spent three hours looking at plants I knew, plants I did not know, and plants of which I had never heard, and had not finished when the time for departure came. I next visited the resting place of Burns, the Scottish bard, and away to fair Carlisle, to see the cathedral and castle. On again, this stage to Bury in Lancashire, to see an old friend, who took me to my first football match, and I then heard some ten thousand people yelling lustily. I also visited some amateurs' gardens, and found the owners very keen and shrewd. Then away over the Cheshire border to Wythenshawe Hall to Mr. R. Scott, who has recently taken charge of these gardens. Wythenshawe is a fine old place with some good glass and walls. Alpines have at some time been very extensively grown there, but have been neglected. On my way home I called at Newark, Tuxford, and East Markham, and there saw an over-abundant crop of hardy fruit that would scarcely pay for the picking. My holiday will give me much to think over during the coming winter months.—J. MALLENDER.

Gardening Appointment.—Mr. Ralph Godbeer has been appointed head gardener to Sir Richard Farrant at Rockhurst, West Hoathley, Sussex.

Correction.—On page 333 of our last issue, in referring to a lecture on Manures delivered by Mr. F. W. E. Shrivell, we inadvertently stated that the meeting was that of the Preston Horticultural Society, whereas it should have read Prescott Horticultural Society.

Marriage of Miss Sherwood and Dr. J. W. Campbell.—Mr. N. N. Sherwood, V.M.H., entertained the staff of Messrs. Hurst and Sons, of which firm he is the esteemed principal, to a dinner at the Holborn Restaurant on Wednesday, October 10th, and a most enjoyable evening was spent. The gathering was called to celebrate the nuptials of Dr. J. W. Campbell, Mentone, and Miss Sherwood.

Phenological Observations.—Mr. E. Mawley has favoured us with a copy of his "Report on the Phenological Observations for 1899," which has been reprinted from the Journal of the Royal Meteorological Society. It is an excellent work, and represents most careful labour in compilation. It embodies a vast amount of information of peculiar interest and value to both horticulturists and agriculturists.

Protheroe & Morris' Sales.—This eminent firm of horticultural auctioneers has favoured us with a quarto pamphlet of sixteen pages containing particulars of nurseries, market growers, farms, florists, seed businesses, and partnerships to be let or sold. The properties are arranged alphabetically under the several counties, and each has a terse paragraph of particulars; for complete information and orders to view investigators must apply to the firm. We observe that Anstralia and the Channel Islands have attention as well as the English counties. To those who are seeking for such properties as those indicated the publication will prove of great value. Applications for copies should be made to Messrs. Protheroe & Morris, 67 and 68, Cheapside, London, E.C. The small book gives also the days of sale of Dutch bulbs, Orchids, Japanese Lilies, and the many other horticultural products handled by the firm.

Alexandra Palace and the London County Council.—Only on condition that racing be abolished would the London County Council on Tuesday consent to add £7000 to the fund for buying the Alexandra Palace and Park. The L.C.C. took three hours to arrive at the decision. It has voted millions in less time. Councillors were divided between the fear lest London should lose this great open space of 144 acres and a natural dislike to contribute towards the maintenance of a racecourse and publichouse. Another objection taken to the scheme was the plainly expressed belief that the maintenance of the Palace and park would soon fall on the Middlesex and London County Councils. No one seemed to have much faith in the proposal to maintain the grounds and buildings out of shows and refreshments. After much debate Mr. Hubbard proposed that the money should be given on the condition that the racecourse lease and the publichouse licence be not renewed, and by sixty-two to thirty-two the Council carried the contribution with this amendment. North London will soon be able to appreciate the boon which the energy of Mr. Littler, Q.C., and his associate trustees, who have raised this large sum, have conferred upon it.

Women and Horticulture.—At a meeting in relation to women and horticulture held recently at Stafford House, Lady Warwick was of opinion that an ever-widening field of labour lies before women in the world of horticulture. There are good and well-paid posts waiting for women as under gardeners, as forewomen of glass houses, or as directors in sole charge of small gardens. And to those who have capital, says Lady Warwick, all forms of market gardening, or specialising in fruit, flowers, and vegetables, or Mushroom growing, are productive of certain incomes. "Further," continued the Countess, "there is the development of an organisation into what we term the marketing department, and in this we hope to attain the most useful end of all, as being a means of bringing producer and consumer together." Mr. Iggulden also addressed the meeting, and although encouraging ladies to follow horticulture, assured them that Lady Warwick's advice as to training was absolutely necessary. Further, the speaker, with a faint gleam of humour, eagerly welcomed amid somewhat heavy surroundings, advised ladies not to start florists' shops in a Low Church neighbourhood. High Churches, said Mr. Iggulden, support five florists to one which flourishes in "Low" localities.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Wargrave Gardeners' Association.—At a recent meeting of this association Mr. F. W. E. Shrivell, F.L.S., of Thompson's Farm, Golden Green, Tonbridge, lectured on "Chemical Manures." The lecturer has carried out experiments for the past six years in conjunction with Dr. Bernard Dyer, and the results of these experiments formed his subject.

Kingston-on-Thames and District Chrysanthemum Society.—The annual show of this society will be held as usual in the large Drill Hall at Kingston on November 6th and 7th. Although these dates clash with many other show fixtures, the local executive think that a good show will result. Some vase classes should bring good competition, as also should the groups of Chrysanthemums. A vocal concert will be given in the Hall on the second evening.

Highgate Chrysanthemum Society.—This is one of the most ambitious of the scores of societies that owe their establishment and maintenance to the popularity of the autumn queen. The north of London has for years been prolific in first-class growers, and an excellent display is usually the reward of a particularly energetic committee's efforts. The Northfield Hall, Highgate, has been requisitioned for the show, which is to be held on November 13th and 14th. Out of the sixty-eight classes particularised the prizes in no less than fifty-two are provided by generous donors, the remaining sixteen coming from the coffers of the society. This fact speaks volumes for the popularity of the society amongst the residents of the district. The secretary is Mr. W. E. Boyce, 20, Holmesdale Road, Highgate.

Beckenham Horticultural Society.—This society commenced its winter session on Friday, October 12th, by opening the Library and Reading Room. A paper on "Hardy Plants" was read by Mr. D. Harris, who is no mean authority on the subject, having had the advantage of working with Miss Jekyll, V.M.H., when she was endeavouring to discriminate between the better plants and the less worthy previous to writing "Wood and Garden." It would be impossible to find a garden planted as described, whose owner would not be the better for it, and it will doubtless be the means of bringing hardy plants more to the front at Beckenham. Choice of site, situation, arrangement for height and colour effect, preparation of the soil, when, where, how, and what to plant, were gone into thoroughly. At the close Mr. Thornton, in a few well chosen remarks, proposed a vote of thanks, which was heartily accorded. Messrs. Peed & Son, South Norwood, sent a display of double and single Begonia blooms. A tastefully arranged basket of Roses, some of the newer varieties of Cactus Dahlias, and Physalis Franchetti were contributed by Mr. Trowell, gardener to D. Link, Esq., "Fairlight, and Mr. Day, gardener to H. F. Simonds, Esq., Woodthorpe, exhibited a beautiful specimen of Vanda Sanderiana.

Bristol Gardeners' Association.—The opening meeting of the winter session was held at St. John's Parish Room, Redland, on Thursday, October 11th. Mr. W. A. Garaway presided over a very large attendance, and briefly introduced the lecturer, Mr. F. W. E. Shrivell, F.L.S., of Tonbridge, Kent, assuring him of the pleasure his visit gave to the association members, who were deeply interested in the line of work to which he had given his time and ability. The lecture was on "Chemical Manures in the Kitchen and Fruit Gardens," the subject being treated by Mr. Shrivell in his usual lucid style. He claimed at the outset that to use chemical manures successfully a man need not be a chemist, admitting that the matter required some thought, but not more knowledge than was possessed by the ordinary gardener. Broccoli, Potatoes, Strawberries, Apples, and Gooseberries were all mentioned as having been grown under varying conditions, and always to greater advantage, with the judicious use of chemicals. Several questions were asked Mr. Shrivell, all of which he clearly replied to, and received by acclamation the thanks of the meeting for his attendance and lecture. Prizes for twelve Plums were awarded Messrs. Orchard and Poole, for six Onions to Messrs. Ross and Sutton. Certificates of merit went to Mr. Poole (collection of hardy flowers), Mr. Ambrose (baskets of Peas and Cauliflower), Mr. McCulloch (*Cattleya Harrisoni*), and Mr. Maidment (*Cattleya labiata*).

The Ben Cant Memorial Prize Fund.—The following additional subscriptions have been already promised:—The Rev. J. H. Pemberton, £1 1s.; Messrs. G. & W. H. Birch, £1 1s.; Messrs. W. Paul and Son, £2 2s.; E. B. Lindsell, £1 1s.; Messrs. Paul & Son, £1 1s.; O. G. Orpen, £1 1s.; the Rev. E. Bartrum, D.D., £1; Capt. Ramsay, 10s.; the Rev. G. E. Jeans, 10s.; A. Hill Gray, £1; Messrs. Alex. Dickson & Sons, £1 1s.; J. D. Pawle, 10s.; Messrs. Prior & Sons, £2 2s.; J. T. Strange, 10s.; George Bunyard, £1; Dr. Seaton, 10s.; Capt. Christy, £1; Alfred Tate, £1 1s.; and H. V. Machin, £2 2s.

Chiswick Mutual Improvement Society.—We are informed by Mr. H. C. Chapelow, 55, Holly Road, Chiswick, that the committee of this association will hold its meetings in the council room, at the Royal Horticultural Society's Gardens. The committee has arranged the first four meetings, which include "Chemical Manure in the Fruit and Kitchen Garden," October 25th; "Alpine or Rockery Plants," November 8th; "Grapes," November 22nd; and "Autumn-tinted Trees and Shrubs," December 6th. The meetings of this society have proved of considerable value to the students in Chiswick gardens, and to others.

Reading Gardeners' Mutual.—The first meeting of the autumn session was held on Monday evening last, and it had been arranged for Mr. G. Stanton of Park Place, Henley-on-Thames, to give a paper on "Annuals." Mr. Stanton, in introducing his subject, said that at the present day it was difficult to draw the line exactly between annuals, biennials, and perennials, because the two latter are frequently treated as annuals, with advantage by growing from seed. Annuals may be said to serve three distinct purposes—viz., for cutting, an important consideration in these days; for bedding, a purpose for which many of them are well adapted; and for filling up or supplementing our mixed borders as may be necessary. The varieties best adapted for various purposes were then touched upon under the following headings:—Climbers, Summer Bedding, Spring Bedding, Cutting, Mixed Borders. A very interesting discussion followed, in which Messrs. Fry, Townsend, Wellington College; Barnes, Bearwood; Tunbridge, Henley; Pope, Wargrave; Butcher, Newbury; Neve, Sindlesham; Tufnail, Sherlock, Mortimer; Lever, Alexander, and Bryant, Pangbourne, took part, and the conclusion came to was that autumn sowing was of great advantage, and that many perennials should be treated as annuals. A great feature of the meeting was the large attendance and the exceptionally good exhibits of flowers from the open, which would have been considered excellent even in August. The flowers were staged by Mr. Stanton, collection of thirty-four varieties; Mr. F. Lever, The Gardens, Hillside, perennial Asters from seed; Mr. W. Townsend, Sandhurst Lodge Gardens, Pentstemon and Physalis Franchetti; Mr. E. Fry, The Gardens, Greenlands, Sweet Peas; Messrs. Sutton & Sons, Ten-week Stocks, Nemesias, Marguerite Carnations and Mexican Poppy; Mr. S. W. Sherlock, Oakfield Gardens, Salvias; whilst Mr. Botley, Blythwood Gardens, Maidenhead, brought some beautiful Eucharis amazonica. A hearty vote of thanks was accorded to the lecturer and to the exhibitors. Although the association is a very large one it is continually growing; seven new members were elected at the meeting.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
October.										
Sunday.. 7	S.S.W.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday.. 8	S.S.W.	63.2	58.7	67.9	56.9	—	55.9	55.9	56.8	46.3
Tuesday 9	W.S.W.	66.0	60.8	74.3	44.7	—	55.3	56.3	56.6	35.1
Wed'sday 10	S.W.	56.2	55.2	72.5	49.0	0.02	56.0	56.5	56.6	42.4
Thursday 11	N.W.	55.4	52.3	58.0	54.5	—	57.6	56.8	56.5	51.5
Friday .. 12	N.W.	43.2	42.7	57.6	34.6	—	53.3	56.7	56.5	26.5
Saturday 13	S.W.	45.9	44.5	60.5	35.5	—	51.9	55.8	56.5	27.6
		53.4	48.5	55.3	40.9	0.02	51.5	55.3	56.4	28.9
MEANS ..		54.8	51.8	63.7	45.2	Total	54.5	56.2	56.6	36.9

The weather during the first part of the week was very bright and warm, the latter part being much cooler, with frost on the ground on three mornings. Small quantities of rain fell on the 9th and 13th inst.



The Sherwood Cup Competition.

WITH reference to this most interesting competition, which is to take place at the Drill Hall on November 6th, I learn from Mr. George Bunyard, who would of course have been a strong antagonist, that he will not enter as a competitor, as it is his special desire that gardeners and amateurs should have a chance to win this fine trophy which Mr. Sherwood so kindly offers. As two other good prizes are added, and the exhibits will all be of firm fruit which can be packed in moderate compass, it is believed that there may be several exhibits entered. Of course fifty-four first-class dishes need some getting, but the conditions which require so many varieties of diverse sections to be staged put all competitors on a footing of equality. Something besides size alone is needed to enable anyone to win. I learn, also, that a special effort will be made to dress the tables set apart for the collections with suitable plants. If so that will be great gain. It would be an admirable occasion to help make up a specially fine fruit display, Chrysanthemums chiefly being the floral features.—WANDERER.

Flowers at the Royal Aquarium.

I do not suppose it would be of the least use to appeal to the authorities of the Royal Aquarium, first to cut down their flower shows to two days only, or to so far improve the ventilation of that building as to enable cut flowers to retain something of their first day's freshness for the rest of the time they are on view. Those who saw the recent show on the second day found, early in the afternoon, a distressing collapse with all flowers set up in bunches—with Dahlias, Begonias, and many other things. What the cut flowers must have been like on the third day I can better imagine than describe. Is it, therefore, right or honest to advertise these shows as grand floral displays, much to the disappointment of the public who pay for admission specially to see the flowers? Perhaps the executive of the National Chrysanthemum Society may have some regard for reputation, and will, in the future, see that the name of the society is not identified with a condition of things such as is never found to exist in connection with any other show in the kingdom. That is a matter that should rank above mere pecuniary interests.—VISITOR.

The Best Cactus Dahlias.

THERE is not much fault to find with the remarks of "F. C. C." on page 328, as we have grown the whole of the sorts named as being the best. I am not, however, so much in favour of the variety Viscountess Sherbrooke. This with us is not free-flowering, as it is somewhat late. A very satisfactory variety is Radiance; it is so bright in colour—a warm salmon scarlet, and very dwarf and free. Emperor, too, has pleased us. This is a light purple flower with yellow at the base of the florets; very taking, and the blooms are excellent in shape. This last, Mrs. J. J. Crowe, Uncle Tom, Mrs. Carter Page, and Mayor Tuppenny are among those grown for the first time this season, and are probably the cream among the many which gained first-class certificates last year. It appears to us that too many of these awards are given, and not a few of those purchased because of such recognition are absolute failures when we attempt to grow them.

Next year cultivators of this improved flower will be inundated with new varieties having tempting descriptions, and behind these the F.C.C. More than a score of them have obtained what is a coveted but misleading award. What would be interesting to know is how many gained the certificate of first class by an unanimous vote, and what number obtained it by what may be termed the "skin of their teeth"? This would be of some importance to the purchaser who wants to keep up to date, yet feels 7s. 6d. each is a big price for so many. We ourselves noted all but one or two of the new ones, but real improvements did not seem so numerous. Then there is the uncertainty of growth. Many may have little ways that none but the raiser has learned; and others, again, good this year may be bad the next. For instance, a variety was introduced this season which required "to be shaded" if the grower desired blooms with quilled petals. Fancy all these little items of shades and umbrellas for Cactus Dahlias! It is bad enough when they refuse, as some sorts do, to come up to the light, and prefer to hide their beauty among the leaves.

The new kinds that appeared the more promising were J. W. Wilkinson, bright rosy carmine, light and elegant in formation as a Japanese Chrysanthemum; Rosine, bright rosy pink; Dinorah, amber; Baden Powell, a very striking crimson shade; Lyric, shaded red; Vesta,

salmon pink; Purity and Lord Roberts, both white. A really good white is wanted. The yellow of Jealousy is striking, but the form of flower is inferior to that of Mrs. J. J. Crowe.

Referring again to the older varieties, Ethel is one that should be more extensively grown. It is yellow, fading to a light buff shade, and the form is capital. It also throws the blooms well out of the foliage on stiff stems. Purely from a garden point of view Starfish is not so satisfactory as a scarlet as is Standard Bearer. The latter is dwarf and more effective. Magnificent is one that requires but little thinning. If restricted to a limited number of blooms they are apt to come bad in the centre. Loyalty is excellent. It is in the way of Fantasy, so distinct in form, but better; colour, coral red. This will be popular when better known. Elsie, again, is charming, the shading of yellow and pink being distinct and pleasing. Exquisite, an amber tint, was capital early in the season, but latterly the blooms have not all come perfect. Among fancy flowers Innovation is good. Half of each petal is crimson, the other part white, and it is very constant.—H. S.

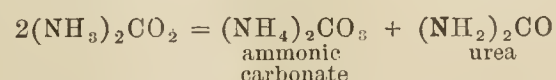
Preserving Fruit—Price of Fruit in London.

WILL "W. H." kindly tell us to what kind of fruit his process is applicable?

Last week in one of the largest stores in London Apples and Pears, such as are being given to the pigs in Lincolnshire, were charged 2d. and 4d. per pound respectively, and Victoria Plums, selling retail in Lincoln for 1½d., were 3d. Yet we hear that it does not pay (in spite of the special rates) to send Apples to London, and that boxes of Green Gages and bunches of Bananas are virtually given away in Covent Garden. It certainly is worse than a pity that London's millions do not appear to benefit by this year's glut of fruit. Where is the remedy?—C. C. E.

Carbonic Acid as a Fertiliser.

THERE is a printer's error in this article; carbonic acid gas plus ammonia do not make ammonic carbonate, but ammonic carbamate. Thus: Ammonic carbonate $(\text{NH}_4)_2\text{CO}_3$; ammonic carbamate $(\text{NH}_3)_2\text{CO}_2$. You will observe that the latter is the former minus water (H_2O) . When the latter is heated it splits up thus:—



As regards the absorption of carbonic acid by the roots of plants, of course we know that the acid is soluble in water, and may be absorbed in that way. I feel quite sure that the roots absorb it somehow. How a plant gets nitrogen out of nitrate of soda is a great mystery to me. But plants after all are very mysterious things. How does the water, for example, get up the inside of a tree? Water first runs down the outside of a tree, and then runs up its inside, which is very funny, to say the least.—W. MILLS.

The R.H.S. Gardens at Chiswick.

I WAS amused on reading in your last issue (page 333) the resolution agreed to by the Brixton, Streatham, and Clapham Horticultural Society in relation to the proposed removal of the R.H.S. Society from Chiswick as a practical garden to one in a more favourable position. It needs no discernment to find in that resolution the fine florid hand and language of the secretary to that suburban society which thus ventures to indicate to the council of the R.H.S. how much wiser is it than is that distinguished body which governs Chiswick. It is quite a new reason for keeping in existence as a "garden of national horticulture," for unless Chiswick garden can be made such it is unworthy of existence as the garden of the Royal Horticultural Society, that it, if allowed to be closed, would discourage persons from embarking in suburban gardening. The suggestion is in reality puerile. There is a vast difference between what may be done in a villa garden at Streatham or even at Chiswick, and what is needed to constitute a great practical garden for the exemplification of the best horticulture.

Then again there is little analogy between the gardens of the suburbs of Streatham, Brixton and Clapham, and the lugubrious surroundings of Chiswick Gardens, and especially of what are about to be created. The large area on the east side, hitherto open as a private garden, is about to be built over, and right up to the boundary wall with lofty flats. Very nice surroundings that for a national horticultural garden. But, then, what did the members of this suburban society know of these conditions? What, indeed, do they know of the needs and requirements of a national garden? Realising that even with a twenty years' lease to run, every year was rendering the gardens less fitted for the great objects for which it is presumably maintained, the council of the R.H.S. has shown great wisdom in proposing to find elsewhere a better site, where there can be established a great garden, worthy of the society and the nation.—OBSERVER.

Spring Bedding.

FIRST an apology, for the very name of bedding is to the up-to-date gardener environed with unpleasant associations and unprofitable labour. "The bedder out is a bad lot, and his work bears the mark of the beast," was the remark made to the writer last summer by an extremist, hence the subject is not approached without diffidence. However, although it is no longer a name to conjure with, there is none other under the sun so applicable to the few remarks here offered. So spring bedding it is, though to some any other name would not be such an utter abomination. There is, moreover, a nameless grace and infinite charm about the flowers which bloom in the spring, that the offence, if offence it be, of gathering together a galaxy of brightness and beauty within a circumscribed area should surely condone it.

From such time as ten thousand tiny gold cups of the Winter Aconite stud the side borders till Gesner's Tulips in the big beds shed their petals on a coverlet of purple Aubrietia, which they have pierced, our formal flower garden is daily watched from the windows and thoroughly enjoyed as it cinematographically moves from the most modest beginnings to the rich colour tones in which it ends, and which no after effects of summer planting can rival. Aubrietia and Gesner's Tulips have been mentioned; these form a daring combination of colour, but so satisfying from the windows of the mansion, where distance lends enchantment to the view, that, somehow, the tone reminds one of Canaletti's masterpieces inspired by sunnier climes.

The list of plants used is not an extensive one, and in their arrangement simplicity rules. The employment of bulbs is restricted to Crocuses and single Tulips, the former being permanently established in a series of chain beds, as an inner ring to the Box edging, with which the summer planting does not interfere. Daffodils do not through our spring garden, for in their wild wilfulness they never appear so happy in the formal position as they do on the grass or shrubbery margins to which they are relegated, whilst late planting and early lifting, unavoidable in spring bedding, adds to their discomfiture. It must be mentioned that in planting the future is kept in view—viz., some of

the larger beds are edged with a broad margin of Saxifraga Wallacei, Armeria, London Pride, and similarly habited hardy plants, forming, practically, permanent edgings, thus economising the labour of summer planting, and the stock of summer plants. As previously suggested, intricate patterns are scrupulously avoided, and mixtures are not favoured, even the largest beds being devoted to one kind or colour only, save those in which Tulips bedeck a carpet of some low-growing thing. Suitable sized plants of Retinospira plumosa, Cupressus Lawsoni, C. erecta viridis, and C. macrocarpa lutea, the latter a charming thing in its tone of colour, are singly centred in each bed.

Wallflowers—fragrant Wallflowers—deservedly hold a prominent place in spring bedding, and, being of easy culture, are a boon to those who have large beds to fill. With such varieties as Eastern Queen, Primrose Dame, Ruby Gem, and the clear golden yellows of several varieties a brilliant display can be depended upon when each sort is planted *en masse* with suitable borderings, already alluded to, to the beds on the grass. Wallflowers, so generally appreciated, are not always so largely in evidence as their merits deserve them to be. Happy is the man who, with many beds to fill, has made due provision for a good supply in his hour of need. Our plants, from seeds sown in mid June, are now ready for transplanting into their permanent from a long border, previously occupied by early Potatoes, into which they were dibbled from the seed beds. It seems scarcely possible to overpraise the Wallflower, not only for its inherent good qualities, but for the large return given for the little labour involved in its simple culture. Large beds of Eastern Queen, over the merits of which variety opinion has been somewhat divided, were, perhaps, the most admired by visitors

to our spring garden last season, but this variety in particular is never seen at its best save when grown *en masse*, then the thin, washy appearance, for which some have condemned it, no longer exists. Comparisons, however, are invidious among varieties all of which are so admirably adapted to present purposes, and a want which is still felt for a brighter red will probably be filled in the near future—viz., a brighter red than any yet obtainable, which would be a decided acquisition. The old Blood Red is not a good bedder, its colour tone being irredeemably dull in the distance; hence, although annually sown in the kitchen garden, it remains there for cutting purposes, for which it is esteemed. Among the dark bedding Wallflowers Ruby Gem stands pre-eminent, but it is not a red. Two huge central beds of this fine variety, edged with Saxifraga Wallacei, were a conspicuous feature with us last spring.

Common as is the old London Pride, a broad band of this Saxifrage enclosing a goodly planting of blue Forget-me-not is, when both are in bloom, a thing to be remembered, the resulting combination of colour forming a quaint but harmonious *coup d'œil* from which the keenest critic could not but derive pleasure. Among the Aubrietias, all of which are beautiful, A. Hendersoni possesses a rich deep hue peculiarly its own, and the red-tinted A. Leichtlini is a good thing, but cannot vie in colour with the brightness of Sutton's Saponaria Scarlet Queen or the old Silene pendula compacta. In most localities, however, both the Saponaria and Silene flower a little late for the purpose, being at their best when the transformation from spring to summer bedding takes place. This we consider to be rather an advantage than otherwise, plants being kept in reserve for such beds as they occupy until such time as the bright glow of these spring flowers is past, for it does much to enliven the comparative dullness of the early summer garden.

The ever popular Forget-me-nots need not detain, beyond observing that M. dissitiflora, the earliest, brightest, and most beautiful, is the worst doer, being subject to blackening from spring frosts and severe attacks of mildew. Some of the Suttonian Forget-me-nots are inimitable for bedding purposes. As an early Tulip, not the earliest, in which section the Duc Van Thols take the lead, nothing could surpass Couleur Cardinal for robust habit, vivid colour, and long-enduring qualities. Golden Crown is a fine yellow companion to the brilliant late varieties



REDWELL.

ties Gesneriana and macrospeila. Where both phases of bedding are still retained and appreciated as best suited to the formal garden, a clean sweep of the beds when the transformation from spring to summer is made is now rarely insisted upon, a spirit of toleration allowing the retention of some spring plants which is rather beneficial than detrimental to summer effect. It is an all-round gain in which some of the most beautiful spring-flowering perennials are saved by the method for the end in view. For example, the soft-toned, yet brilliant Alyssum saxatile, without which, I fear, we could not consider our spring display complete, is allowed to remain undisturbed, and no objection is made to the sober-tinted cool grey foliage of these then flowerless beds during summer. Nor is this the only plant which, impatient of being disturbed at an untimely season, is not only tolerated, but rather esteemed as a counterfoil to brighter things. Needless to say how helpful this little freedom is to those who cannot entirely rid themselves of the fetters of fashion, and, perhaps, really have no wish to—for the system, if stretched out on more elastic lines, will probably prove the salvation of bedding in those places and positions to which it is peculiarly suited; and those who perforce of circumstance have still to carry on the bedding, may, too, find some comfort in the reflection that it is now old-fashioned and "out of date."—K., Dublin.

Damsons Almost Given Away.—Never probably within the memory of the oldest inhabitant of North Shropshire has the fruit crop been as large as it is this season. At Market Drayton recently the finest Damsons could be purchased at the low price of 1s. per bushel of 90 lbs.; while second and third-rate qualities realise anything from 4d. upwards for the same quantity.

Redwell.

REDWELL, Wellingborough, the residence of Thomas Pendered, Esq., may be said to afford an excellent illustration of a gentleman's bijou country residence; the dwelling of a man who desires and enjoys his life amid congenial surroundings—his gardens, his trees, and the land about him. Redwell occupies a somewhat commanding position on the highest ground to the north side of the busy town of Wellingborough. It is an historical name, for in a field a little below the house is a well—the red well—said to have been at one time visited by Henrietta, Queen of Charles I. Some forty years ago Mr. Thomas Pendered, one of the leading townsmen of Wellingborough, purchased several acres of land, including the spot which he selected as a site for a residence; he planted it in 1870, and in 1878 erected a substantial and commodious mansion. A modern novelist has said in one of her books that the greatest happiness is derived from that garden which is one's own creation. The grounds and garden at Redwell are Mr. Pendered's own creation, and he probably gets as much enjoyment therefrom as any man in Northamptonshire.

The mansion faces the south, and fronts on to the Redwell Road; it is kept private by means of a belt of trees and shrubbery; on the east side are the stables, and offices, with a fruit and vegetable garden beyond; along that part which forms the south boundary of the garden is a shady walk under trees; various forms of Ivy clothe the walls, and at the foot of the wall and trees, and on the east, a line of *Cedrus deodara*, and on either side of the walk on the south and east can be seen an abundance of Primroses and other early spring flowers and Foxgloves. Spring flowers are greatly esteemed at Redwell, and they exist in considerable variety. On the walls of the fruit garden can be seen various stone fruit trees; the soil is of a deep fertile loam, and produces excellent vegetables. A portion of the ground is given up to Dahlias, of which Mr. Pendered is a warm admirer; the Show and Cactus types are his favourites.

Behind the mansion is a spacious and well-kept bowling green, divided by means of a broad walk from the lawn, about which Mr. Pendered has planted from time to time some of the choicer coniferous trees, which he regards as one of the features of the place. There is a walk running from south to north on the east side as well as on the west, in the former case divided from the bowling green by a belt of fruit trees, and there are borders on either side for flowers. On the north side of the bowling green is a belt of fruit trees and shrubs, with members of the Fir tribe; beyond these a walk along the northern boundary through an avenue of Filberts. On the east of the western side walks a belt of fruit trees divides it from the lawn, and on the west there is a wall



REDWELL—A FRUIT BORDER.

Mr. Pendered is also a cultivator of fruit, and has a collection of some seventy varieties of Apples, including Allington Pippin, which is highly esteemed; Cox's Orange Pippin, Worcester Pearmain, Early Margaret, King of Pippins; and the leading culinary varieties, such as Peasgood's Nonesuch, Bismarck, Lane's Prince Albert, and Ecklinville. Of Pears, there can be seen in the Redwell collection Pitmaston Duchess, Doyenné du Comice, Beurré Diel,

Louise Bonne de Jersey, Beurré Superfin, Fondante d'Automne, and Bon Chrétien as the most esteemed; while of Plums there is a large variety—standards, dwarfs, and on walls, such as Kirke's, Cox's Emperor, Washington, Jefferson's, Czar, Victoria, Rivers' Early Prolific, and Goliath; and of Damsons The Prune, Pershore, and Farleigh Prolific.

The Dahlia is a leading favourite with Mr. Pendered. It is his enthusiasm and generous support which has established the Wellingborough Dahlia Society on such a satisfactory basis. He is also a vice-president of the National Dahlia Society, and a warm supporter of the Dahlia Exhibition at the Royal Aquarium. In times past, when the Northamptonshire Agricultural Society has held a horticultural exhibition in combination with it, Mr. Pendered was superintendent and treasurer.

Though at the head of an important firm of land agents, Mr. Pendered gives valuable time to local affairs, and as the chairman of the Local Board he has had much to do with the rapid extension of the important industrial centre of Wellingborough. Miss Pendered, the novelist, is a daughter of Mr. Pendered, and resides with her father at Redwell.—R. D.



REDWELL—A SHADY WALK.

An Hour at Wem.

ALL good horticulturists who find their way to Shrewsbury, either when the town is *en fête* for the show, or when it is living its customary sleepy life, make a point of running out to Wem, even if it be for one hour only. Such was the position of the writer when in Salop a few weeks back. Sweet Peas were still hot on his mind, and he felt it a duty to visit the birthplace of some of the finest varieties in cultivation, and have a chat with the doyen of Sweet Pea raisers—Mr. Henry Eckford. There had always been a lingering impression in my mind that Sweet Peas, Wem, and Eckford being essentially synonymous terms, there could not possibly be anything else grown there; but of this fallacy I was soon disabused. There were flowers of many kinds, not to speak of a few acres of culinary Peas growing for seeds, and all of them came in for at least a cursory glance under the guidance of Mr. Henry Eckford, who will wear the mantle of an illustrious father when the inevitable time is come in a thoroughly worthy manner.

Sweet Peas.

The nurseries are conveniently situated about five or six minutes' walk from the station, and before they are reached the atmosphere becomes laden with the perfume of the Sweet Pea; it is a pleasant augury of what may be seen at blossoming time. The visitor may look for the best amid the serried lines of the named varieties, but whether he will find it is extremely doubtful. Practically the whole of them are excellent, and each one is for the moment the essence of everything that is sought for in the Sweet Pea; such as these, however, occur again and again until the mind becomes bewildered amid the plethora of beauty, and the task of seeking the best where all are perfect is discarded entirely. There, too, are the rows of unnamed seedlings—here a superb crimson-scarlet, yonder a glorious soft rose and white Apple blossom-like flower that must rank with the *élite*. No, the sensible man will see and admire, and instead of looking for the pearl of pearls, will bring forth his note-book and write name after name, in the certain knowledge that amongst them he will have flowers which will all be diamonds, and every one of them pearls, according to the varied tastes of the inspectors of his floral treasures.

Briefly speaking, none but the most experienced would ever believe that there was such a number of excellent Sweet Peas gathered together in one nursery, and of which a large proportion of the very choicest varieties had been raised or introduced by the owner of the ground upon which they were growing. Go towards the end of summer in such a season as the present, and it will be immediately seen for what purpose the plants are grown. Seeds are the sole object in view, and the plants as a consequence take on the "sere and yellow" long ere those in private gardens should do. Direct the energies of the plant towards the perpetuation of its species in the development and perfection of seeds, and the production of flowers becomes at once a purely secondary consideration; this is the state of affairs at Wem. Seeds by the bushel must be secured for the fulfilment of the many orders, and the seed pods are encouraged to form and the plants to mature them, and hence flowers become scarcer and scarcer until an occasional bloom is all that greets the eyes and gladdens the senses by a delicious fragrance. Seed production may be and undoubtedly is the sum and substance of the plant's life, but it is not an indiscriminate function common to every plant on the ground. By no means; on the contrary, every row is subjected to the minutest scrutiny, and when a plant is found whose flowers show the smallest signs of deterioration, it is instantly removed. To this "roguing" must be ascribed the purity and quality of the Eckford strains.

A Note on Cultivation.

In one respect the method of procedure adopted at Wem is similar to that in vogue in the best gardens where Sweet Peas are cherished. This is in the preparation of the land particularly, and subsequently in the careful staking and the mulching of the surface with strawy litter to conserve the soil's moisture for the benefit of the plants. If the plants are to treat the grower well he must first deal generously by them. Afterwards the treatment differs, for the grower for home use looks for a multitude of flowers, and to this end gathers them as fast as they develop, his object being to prevent seed formation. In the case of the Eckfords of Wem, we find the exact opposite, for, as has been said, seeds are the chief requirements. I dare not venture to enumerate varieties, but shall leave their selection to the individual tastes of my readers.

Culinary Peas.

The prominence of the Sweet Pea at Wem is only equalled by that of the culinary Pea, and the utilitarian will find himself irresistibly attracted towards some of the firm's specialties. From what could be gathered in a brief tramp amidst the plants during a thunderstorm with heavy rain, medium height, hardness of leafage, and freedom of cropping are apparently the principal objects. They

generally ranged in height from 2½ feet to 4 feet, and had substantial stems producing very fine foliage; a characteristic of the pods was their size and the squareness of the blunt ends allowing space for an extra pea over those that terminate sharply. Eckford's culinary Peas are known by some cultivators as well as his Sweet Peas, and are appreciated quite as much, though their merits are regarded from very different standpoints. There can be no doubt, however, that they deserve a wider recognition as well from the small as from the large grower, for with their good properties of growth and production they possess that most essential point of all in culinary Peas, and that is excellence of flavour when cooked.

Verbenas and a Pansy.

Verbenas at Wem differ very materially from the Verbenas grown by the majority of people, for the centre of the plant forms a veritable cushion, whence radiate in all directions flower-producing shoots that completely cover the ground. The healthy plants producing richly hued flowers in such abundance make a brilliant display, and if everyone could insure similar results the renaissance of the Verbena, which was written of in the Journal some months back, would quickly become an actual fact. One other good thing and we must close our notes. This is a bedding Pansy named Lady Constance Bouverie. It is of very dwarf and compact habit, and produces very large flowers of varying shades of varnished brown in extraordinary quantities. Add to its size, floriferousness, and lovely colour the delightful perfume of the Violet, and you have the sum total of the merits of Pansy Lady Constance Bouverie.—H. W.

Royal Horticultural Society.

Scientific Committee.

THE following matters have been received and dealt with during the recess.

Asparagus diseased.—Specimens badly diseased were received from Mr. G. Croft Harris, Upton-on-Severn, and submitted to Dr. W. G. Smith, who reports as follows:—

"The plant of *Asparagus* received is badly attacked by the *Asparagus* rust fungus (*Puccinia asparagi* D.C.). The stems are studded with dark spots, oval in shape, and some as long as one-eighth of an inch. Examination showed the characteristic two-celled teleutospores or winter-resting spores, with a thick dark brown coat; the spots seen on the stem are compact patches of these spores. The fungus filaments live inside the tissues of the *Asparagus* plant. The life history of this *Puccinia* agrees closely with that of Mint rust (*Puccinia menthæ*). The young shoots of *Asparagus* in early summer bear tiny cups, from which a form of spore (aecidiospore) is given off; later in the season brown spots on the plant give off a second form of spore (uredospore); in late summer or autumn appear the dark brown patches of teleutospores, as in the plant sent. In considering remedy it is important to bear in mind that these teleutospores rest through the winter, and next season infect young plants. Operations must therefore be directed towards gathering and burning all the old stems as soon as possible, and before the spores have time to be scattered about. At the same time all weeds or other matter likely to harbour the spores during winter may be gathered and burned. Quicklime might also profitably be dug into the upper soil in as large a quantity as may be considered safe for the crop; and while the plants are dormant, spraying with diluted Bordeaux mixture has been fairly successful as a check to the rust, but the delicate nature of *Asparagus* foliage makes this risky, and further experiments are required."

Asters diseased.—Examples were sent by Mrs. E. Daw of Nymett House, Nymett Rowland, Lapford, N. Devon, observing that "the whole bed looked in splendid condition, but one after another nearly every plant went off, and in only a very few hours seemed quite withered and dead. Another garden in this neighbourhood has suffered in the same way, and French Marigolds have also been similarly attacked." They appeared to be attacked by a worm described by Mr. Hilderic Friend ("Gardeners' Chronicle," August 14th, 1897).

Willows attacked by aphids.—Rev. H. C. Brewster of South Kelsey, Lincoln, sent specimens of Willow shoots infested with aphids. He observes that the Willow trees swarm with wasps. Mr. McLachlan reports that the insects on the Willows were a large species of aphid known as *Lachnus viminalis*. They secrete quantities of "sugar," which attracts innumerable wasps. It has actually been suggested in former times that this "sugar" might be utilised when the real article is scarce.

Oak leaf with spangles.—Some leaves, extraordinarily and thickly covered with spangles, were sent by Mr. Winkworth of Haughton Hall, Tarporley. Mr. McLachlan observes that nothing can be done, but tomtits devour them. They are not likely to cause any permanent injury. Pheasants are said to be fond of them.

Cystopteris bulbiferum.—Specimens of the curious bud-like structures from the tips of the fronds of this Fern were sent by Mrs. W. Floyer of 4, Richmond Road, Basingstoke. They consist of two or three unequal sized thick and fleshy scales; the cells are green, but contain immense quantities of starch.



Blackberries all the Year Round.—English Blackberries are always popular, and in spite of their being had for the gathering in every country place, few other fruits are as popular. Americans cultivate the Blackberry, and very good it is, and now an enterprising firm is canning them, and they are to be put in the English market, and as the fruit is of the finest quality it should prove good. When we can have Blackberry tart every day, shall we like the Blackberry as much as we do now, when it comes to us only with the crisp days of autumn? It is certainly doubtful.

Armoured Plants.—In passing through botanic gardens and other places where there are collections of tropical plants, people often wonder why it is that so large a percentage of the plants peculiar to the torrid regions of the earth are so heavily armed with thorns and spikes. It is now pretty generally conceded, says a contemporary, that one of the reasons for this is, that in the regions where these plants find a home vegetation is so scant, and animals frequently find themselves so hard pressed for food, that if the plants were not so defended or protected they would soon be eaten out of existence. The thorns or prickles, therefore, serve as a protective armour for preserving the plants from extermination.

Mistletoe on an Apricot.—The "Pacific Rural Press" figures a species of Mistletoe, native to California, that has grown on the branch of an Apricot. It shows how plants can adapt themselves to new conditions, the home of the Apricot being Asia. After all, these parasites themselves are good illustrations of this. They probably started life in the earlier ages, as other trees and plants do—and as the Cuscuta, or Dodder, does now—and eventually found it as well to live wholly on trees. Logically, a plant could not attach itself to a tree until there was a tree to be attached to. Parasitism must then have been a later event in the great work of evolution.

Rubus deliciosus in the Rockies.—The habit and form of this shrub are much like those of a Spiræa. It grows 8 to 10 feet high when at its best. When I first saw it in the Rockies, I thought it one of the most remarkable shrubs I ever saw. It was a pure snowbank of whiteness.—The flowers were like single Roses, overtopping each other. It has a thimble berry which dissolves when you pick it. It is thought the botanist who named it must have been very hungry. No one would think of raising it for the fruit, which is of a sickish sweet, but for flowers it is a success. In the East it has been often a disappointment because planted on high ground. Its place is by a pond of water or running stream. There is one on rich, low ground in the Arnold Arboretum, and the superintendent speaks in the highest terms of it. Give it rich ground and wet feet and no shrub could give better satisfaction. It has its place in parks, cemeteries, and private grounds. It is thrifty and hardy; it is hard to propagate; it will not grow from cuttings, and it takes the seed two years to germinate; it is generally secured by dividing the clumps.—C. S. HARRISON (in "American Gardening").

The Germination of Seeds.—The influence of certain chemical fertilisers upon the germination of seeds was studied by the late Gilbert H. Hicks, and the results have been recently published in a bulletin by the United States Department of Agriculture. The fertiliser was used in much larger proportion than obtains in actual practice, and at the rate of 2000 to 3000 lbs. per acre, but it showed that muriate of potash and nitrate of soda when used in such large quantities were detrimental to the germination of seeds whether applied directly or mixed with the soil. The chief injury to germination is inflicted after the young sprouts leave the seed coat and before they appear above the soil. Fertilisers composed of phosphoric acid and lime are less injurious and not harmful unless used in excess. The results of the trial show that chemical fertilisers do not favour germination and that they should never be brought in direct contact with germinating seeds. However, when applied at the usual rate there is little or no injury to be feared unless the seed is dropped from the same spout at the same time and covered up with the fertiliser.

The Benefits of Decaying Leaves.—Professor Silvanus P. Thompson calls attention in a daily paper to a lack of knowledge or consideration in the management of Kensington Gardens, which should be noted by the responsible authorities. The dead leaves, as they fall from the trees, are collected and made bonfires of, a process which insures tidiness, but at the cost of incalculable injury to the trees. "We carefully deprive the trees," says the Professor, "of their natural nutriment at the roots, and then wonder why their tops decay, and their growth languishes." It appears that in Epping Forest the removal of the fallen leaves is forbidden; they are left to decompose, and thus nourish the roots.

Mulching Newly Planted Fruit Trees.—Preparations should be made for planting fruit trees by trenching the ground, or station-planting. Everything will succeed better if the fresh roots are working freely before winter. If before the heat gets out of the ground the surface is covered with long litter the roots will be growing strongly all the winter, and the plants will need little of the water that spring-planted trees might require. As soon as the heat in the air in spring exceeds the heat of the soil, the mulching should be all removed, so that the sun may play freely on the surface of the ground. If that is apt to dry it too much the surface soil may be stirred a little, which will keep moisture in and extra heat out. The firmer the soil the more will the ground be influenced by heat and cold, and the looser the soil the less will it be affected either way.—FRUIT GROWER.

Sparrows Eat Grapes.—The English sparrow has destroyed a large part of the Grape crop in some parts of Oklahoma this year. The crop is not bothered in any way until the fruit begins to ripen. The sparrow then splits the berry on one or two sides and eats part of the pulp. After the berry is split the bees, wasps, and other insects soon destroy the entire pulp. The berry is seldom torn from the stem and the skin dries and withers on the bunch. The early varieties do not seem to be so badly attacked by the birds. No one variety seems to be attacked worse than others, but thin-skinned varieties suffer more than thick-skinned varieties. It was necessary, says a transatlantic journal, this year to gather some of the later varieties before they were thoroughly ripe in order to prevent their entire destruction by the sparrows.

Marguerite Carnations.—Where cut flowers in abundance are required during September and October, a packet of these should not be omitted when sending in next year's seed order. We have been cutting for several weeks Marguerite Carnations from seeds sown in February and March in pans, and pricked out into boxes when large enough to handle; from these they were transferred to beds and borders, allowing about a foot each way, where they made excellent plants, not requiring staking, as the plants keep each other up when planted this way. Single varieties are sure to come up more or less, but these are useful for glasses, and their grass may be cut and used with the double varieties. This autumn, when other outside flowers have suffered from the drought, they have proved invaluable, standing the dry weather without any ill effects. Where room can be found inside, they will repay the trouble of lifting and pottling.—J. B., Bucks.

Gardening in Africa.—"The main trouble in a British West African diet is a lack of fresh green food," wrote the late Mary H. Kingsley, the African explorer, in "Climate," and some of the difficulties in the way of supplying that deficiency she describes as below:—"Gardening in West Africa is nervous work. I have worked in gardens there, and know that even lifting a kale-pot is not there, as it is here, a trifling act—because under the kale-pots you have there a chance of finding divers things that, if in spirits on a shelf of the British Museum reptile gallery, would give pleasure, but there, close to one's ankles, and not bottled and corked down, are merely exciting and unpleasant. Still, if the snakes go in the other direction, one has the satisfaction of having fresh vegetables. There are plenty of worse things than snakes connected with West African gardening. In some places there are elephants, in others hippopotami. Specimens of either in a garden for a night are incompatible with success, for a season at least. Then, if you hire a man to sit up all night in the garden and ring a hand-bell to keep such intruders off, he keeps you awake also. If you take away the bell and set him up in business with a fire to scare game off, a leopard usually comes and takes him away, which distresses you very much. Gardening in West Africa is not to be undertaken light-heartedly by persons of a nervous or irritable disposition."

Gathering and Storing Fruit.

THE fruit harvest of the closing year is a bountiful one indeed, which will probably be remembered in the years to come as a time when Nature in her generous mood lavishly bestowed her gifts upon us. It is not a year when heavy crops are seen in one locality and light ones in another; but, on the contrary, in whatever direction we go, the branches of Apple and Pear trees may still be seen bending beneath the weight of fruit—fruit which during the last few sunny days has become brighter in colour on the cheek, and which in the green parts is fast changing to yellow, a sure sign that that stage has been reached when all is ready for gatherer's hand. When so many duties press upon the gardener it is not an easy matter to gather all varieties of Apples and Pears just at the right time, but their flavour and good keeping qualities are greatly influenced by correct treatment in that respect. If gathered too early the full flavour peculiar to each variety is never secured, and the fruits often shrivel long before they should. On the other hand, when gathering is deferred till too late a period, many choice specimens fall, and the supply for table purposes cannot be regulated so well, as the fruit ripens simultaneously.

Too much care can scarcely be exercised in gathering, as the choicer the fruit the more liable is it to damage through being bruised, a condition which greatly reduces its value in the market, and makes it unsuitable for placing on the dessert table. Baskets lined with soft woollen material have long been used by some gardeners when gathering fruit, and the sooner they are adopted by all the better, then, with care in handling, the risk of damage is reduced to a minimum. When fruit on tall trees has to be gathered baskets with a flat side, and holes to pass a strap through before fastening it around the waist, are exceedingly useful. In fruit-growing counties such baskets are often displayed in shop windows, in other counties they are unknown. The old canvas bag which is fastened over the shoulders may be tolerated when gathering the common sorts of Apples, but should never be used for choice fruit. Large specimens of Apples and Pears need extra attention in gathering and conveying to the fruit room; a good method to follow is to place a single layer in trays or flat-bottomed baskets.

Those who have large and well appointed fruit rooms can fortunately dispense with the makeshift contrivances with which many have to manage. But it is not always that the most expensively built fruit rooms are the best for keeping the fruit. I have known some to be dismal failures in that respect. Conditions essential toward the preservation of fruit are darkness, a cool dry atmosphere, and an equable temperature. Great fluctuations of temperature cause the deposition of moisture on the fruit, which gives it a musty flavour, and hastens decay. When artificial heat has to be resorted to to keep out frost shrivelling quickly takes place. It is clear, therefore, that fruit rooms should be so constructed as to be capable of excluding frost without resorting to artificial heat except during the prevalence of very severe weather.

Specimen fruits should be stored in single layers on shelves covered with stiff white paper, but those of medium size may be placed in layers from 9 to 12 inches in thickness. Varieties which ripen early ought to be placed on the higher shelves, and the late varieties on the lower ones where the temperature is naturally slightly cooler. It is also a good plan to label each variety as stored, giving also the date of gathering. When it is desirable to preserve a few extra fine specimens a long as possible for special occasions they should be wrapped in tissue paper and placed in drawers covered at the bottom with cotton wool. In this way they may often be kept fresh and plump for a long time if the position is a dry cool one. The resources of the fruit room will even this year in many establishments suffice for storing the choicer fruit, but other positions will be required for the heavy crops the orchards supply. An excellent plan which many successfully practise is to store them in boxes and barrels lined with paper, and covered on the top with straw. These if placed in sheds, or even cellars—though the latter are often too damp—take little room, and the fruit keeps well in them. Varieties which ripen quickly may be safely stored on the second floor of outbuildings if the floors and walls are well lined with straw, but it is never safe to place late varieties in such positions because of the difficulty, I might almost say impossibility, of keeping them safe from frost during severe weather. Whenever late varieties are stored in sheds which cannot be heated by artificial means they should always be placed on the ground floor. The floor and walls need coating with straw fully a foot in thickness, then if the heap is covered with double that thickness of similar material on the top, the fruit is safe during the severest weather.

It is an easy matter to advise all to store fruit thinly, but with only a limited amount of space at command and much fruit to store it is not always possible to follow such advice. I have at various times had a good deal to do with storing, sorting, and packing Apples,

and I usually find when packing in winter that where the heaps were a couple of feet in thickness the fruit kept fairly well, but when, as was sometimes the case, Apples were piled to a depth of 3 feet, rotten and specked fruits were far too plentiful. All fruit for the first few days after being stored ought to have a free circulation of air around it till sweating ceases, then light and air must be gradually excluded. —POMONA.

White-leaved Plants.

WHEN the markings are clear and good and the general outlines of the plants are graceful or handsome these are greatly admired by most people of refined tastes. The white must be pure, as a dirty white or cream is anything but pleasing in association with green. I intend to enumerate and touch upon cultural details relating to these fine-foliaged plants, whether hardy or exotic, and shall commence with those requiring a stove temperature to bring out their beauties. *Ananassa sativa variegata* is a plant of noble form that is eminently adapted for room decoration; it will not, of course, stand in a cold or draughty position during autumn or winter. A compost of fibrous loam with a liberal addition of sand and good drainage suits it admirably. It should not be overwatered during the dull seasons of the year, and drip must be kept from the crown of the plants or the axils of the leaves. It associates well with gold or silver plate, and may be used either in a medium or small size on the dinner table. *Aralia Chabrieri* is an elegantly cut leaved variety that has not the stiff and rigid outlines of others; it is easily propagated by cuttings taken with a heel, and inserted in a propagating case with bottom heat.

Alocasia macrorrhiza variegata is useful during the summer (it is semi-dormant in winter). I have seen it best grown in a compost of living sphagnum, dry cow manure, and silver sand, filling the pot half full of drainage, as liberal supplies of water must be given. Propagation is readily effected by division. *Cyperus alternifolius variegatus* is, when in perfect condition, unsurpassed for room or table decoration. It is frequently recommended to pot this in poor soil to encourage variegation, but I have found when propagated by division instead of by the terminal heads it retains its variegation. Being a semi-aquatic, unlimited supplies of water are essential. *Caladium argyrites* is well known as a valuable decorative plant during summer; under good culture it increases rapidly. Abundance of water is necessary during the season of growth, while during winter an occasional watering must be given; it requires a minimum winter temperature of 60°.

Dracaena Sanderiana is fast gaining in popularity as a distinct and elegant plant, either in small pots as a single specimen, or in larger pots or pans with several of its cane-like growths; it is easily increased by stem cuttings of two eyes placed uprightly in small pots in a propagating pit. *Fittonia argyroneura* is a charming scandent-growing plant with a network of white on a green ground; it is splendidly adapted for rockwork or covering bare places on the tops of tubs or pots in which large Palms are grown. This plant requires a warm, moist atmosphere, and will not thrive in a low or airy temperature. It also makes fine specimens in pans which can be used for room decoration if not kept in too long. *Ficus Parcelli*, although a striking variegated plant, cannot tolerate the drying atmosphere of rooms; it is propagated by side shoots taken with a heel in summer and put into a propagating pit. *Panax Victoriae*, a plant of graceful outline that is easily propagated by top or side shoots, requires a light position and makes a very fine vase plant.

Phrynium variegatum is only useful during summer; as it dies down in winter it requires to be kept on the dry side then. It is increased by division in the spring when growth is starting, and is best grown in 4½-inch pots, as the variegation is better when the plant is somewhat cramped at the roots. A moist atmosphere and shade from strong sun are its essential. *Phyllanthus nivosus* is a plant of elegant appearance, but as the young tips of the shoots are the only white portions, it is not popular with some people, while it does not successfully withstand the drying influence of rooms. It is propagated by cuttings taken with a heel during summer and placed in a close case. *Panicum variegatum* is indispensable in almost all grouping arrangements, and as a drapery for the front of stages it is unequalled. The stock should be maintained by inserting cuttings, which root readily, three or four times a year. Unlimited supplies of water will be found

necessary, and the shoots should be stopped at least once during their growth if specially good plants are needed. *Phyllotœnium Lindeni* requires a compost of fibrous peat and sphagnum moss with the pots

atmosphere with shade, a well drained pot, and abundance of water. When specimens are required for rooms or dinner table they are best raised up on pots or suspended from the roof with a saucer beneath,

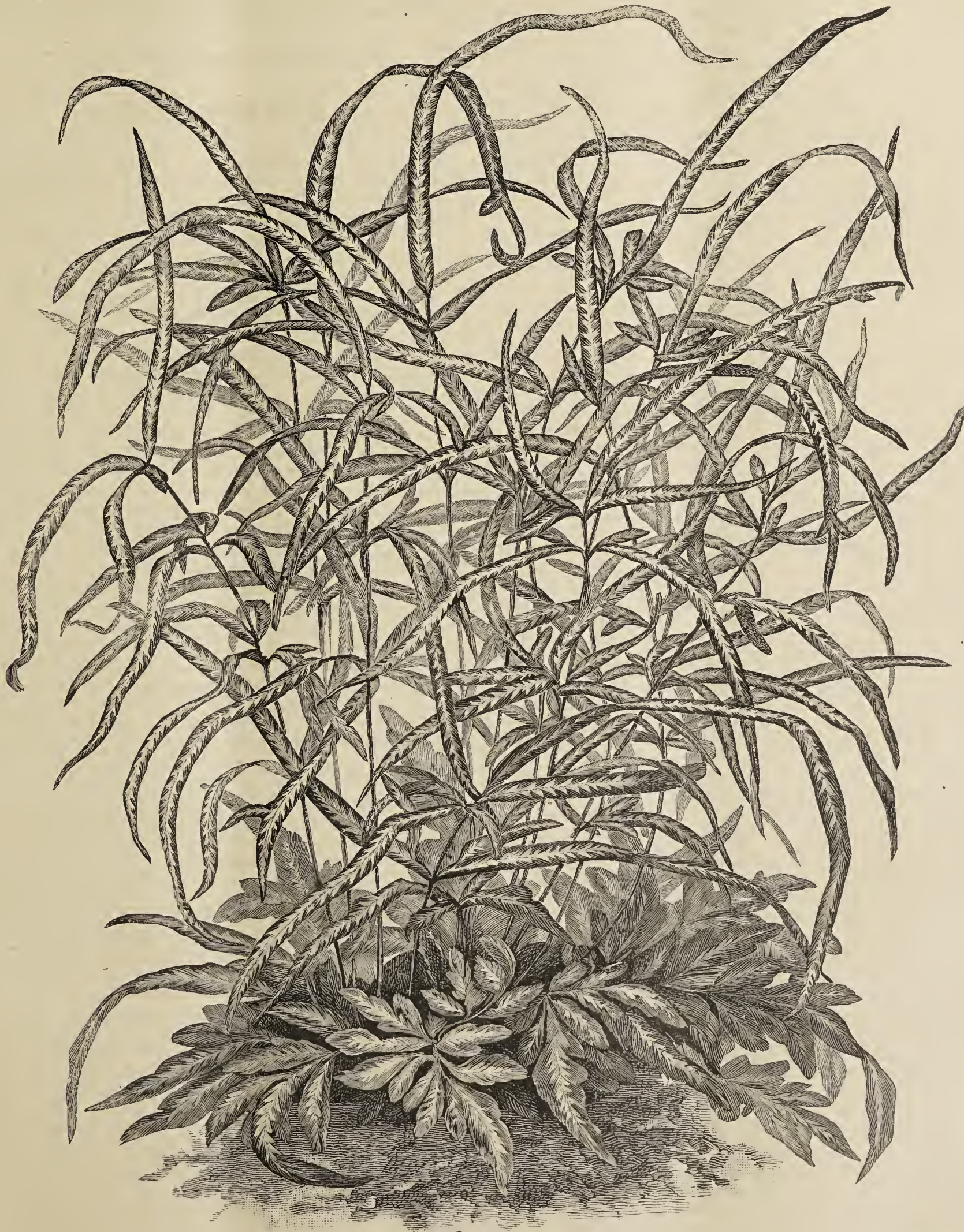


FIG. 102.—PTERIS VICTORIÆ.

half full of drainage; particularly good plants may be occasionally used in rooms.

Pteris argyræa is a handsome decorative Fern, as also is *P. cretica albo-lineata*. Both of these require a stove temperature, a moist

which holds the necessary moisture. *P. Victoriae* (fig. 102), introduced some years ago by Mr. Wm. Bull, is a handsome plant. *Pandanus Veitchii* is one of the most valuable decorative plants we possess; it is a paragon of beauty both in form and variegation. It requires full

exposure to sun and light to bring out its best decorative points, and should be propagated from the small white suckers if possible, although green ones under good cultivation will become white; these root best in an ordinary stove.

Coming now to plants requiring only a greenhouse temperature, in fact a warmer one is inimical to their well doing, we can start with *Anthericum elatum variegatum*, which either in small or large pots is a valuable plant, and more particularly when its flower stems are bearing miniature plants. *Bambusa Fortunei variegata*, a miniature Bamboo of from 18 inches to 2 feet in height, makes a useful specimen in 5 and 6-inch pots; it requires an abundant supply of water. *Carex japonica variegata* is a graceful and useful plant, which should be largely grown where much decoration is done; it is easily increased by division, the fresh stock being kept in a rather close warm house or frame until established; it should be freely watered at all times and syringed daily in fine weather. If the plants become dry at the root its leaves will soon assume a rusty appearance; 5 or 6-inch pots will produce handsome specimens for room vases.

Eulalia japonica variegata is a most beautiful plant when grown in a greenhouse temperature and well supplied with water. It takes a rest in the autumn, and should not even then become very dry. Young shoots will rise in the spring, and it may then be increased by division. *Phormium tenax variegatum* is a noble plant with long sword-like leaves, which are valuable alike in the greenhouse or the flower garden in summer. The type is found in swamps in New Zealand, and an unlimited supply of water is required. *Zea japonica variegata* is also useful for outdoors as well as the conservatory. If seeds are sown early in February they will produce good plants for either purpose. I like to place one seed in a thumb pot in heat and pot as required. It is not safe to place these plants outdoors in the northern parts of the kingdom until June. *Coprosma Baueriana variegata*, an old but very distinct greenhouse plant, is propagated by cuttings taken with a heel in spring or summer and placed in a close frame in a temperature of 60°.

Passing to perfectly hardy plants, we have amongst shrubs *Cornus mascula variegata*, which might be seen more frequently in shrubberies or on lawns, as it is distinct and effective. It is propagated by layers. *Acer polymorphum variegatum* is a clear white and green Japanese Maple with palmate leaves, which are effective in groups as a pot plant; its hardiness is doubtful in the North of England. *Acer negundo variegata* is fairly hardy in the northern counties. It produces a fine effect either in the shrubbery or flower garden; as a pot plant it forces well in the early spring in a mild genial temperature. *Euonymus radicans variegata* is useful for covering walls or as an edging in the Italian garden. *Funkia ovata variegata* is effective either in large beds on the lawn or in the herbaceous borders, doing well in either sun or shade. It is a valuable decorative plant in pots in early spring in the greenhouse. The handsome strap-shaped leaves of *Hemerocallis kwanso variegata* make it valuable alike for the lawn or the herbaceous border. *Koniga variegata* is used in bedding arrangements as an edging or groundwork to larger plants, is propagated by cuttings of the young shoots placed in cold frames for the winter, and must be protected from severe frost.—F. STREET.

The Theory of Manuring.—Plants require about a dozen chemical elements for their healthy nourishment, but in practice it is only necessary to supply three or four of these in order to make up for the requirements of ordinary crops. The plant food constituents in which soils are most deficient are nitrogen, phosphoric acid, and potash, and it is these which it is the aim of the farmer to supply in such manures as he uses from year to year. The other food constituents required by plants, and including magnesia, lime, iron, chlorine, are usually present in most soils in sufficient quantity to supply the requirements of the plants growing therein. It is different, however, with the nitrogen and phosphoric acid and potash. Analysis may show all or some of these to be present in fairly large quantity, but, says the "Farmers' Gazette," the form or condition in which they exist is such that they are of no practical value to the plant because of the latter's inability to assimilate them. The object of applying manure, therefore, is to supply these constituents in a form in which the plants can soon take advantage of them. The proportion in which these ingredients are required in the soil is, after all, but very small, as is shown by the fact that a ton of farmyard manure supplies only from 9 to 10 or 12 lbs. of nitrogen, about the same quantity of potash, and only from 5 to 7 or 8 lbs. of phosphoric acid.



Forthcoming Shows.

AS is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the respective secretaries:—

- Oct. 30, 31.—CROYDON.—W. B. Beckett, 272, Portland Road, South Norwood.
- Nov. 2, 3.—BATTERSEA.—J. O. Langrish, 167, Elsley Rd., Battersea, S.W.
- " 6, 7.—BIRMINGHAM.—J. Hughes, 140, High Street, Harborne, Birmingham; F. W. Simpson, Corn Mills, Sixways, Aston, Birmingham.
- " 6, 7.—BRIGHTON.—J. Thorpe, 53, Ship Street, Brighton.
- " 6, 7.—COVENTRY.—J. Cooper, 31, Foleshill Road.
- " 6, 7.—KINGSTON.—W. Hayward, Kingston-on-Thames.
- " 6, 7.—SOUTHAMPTON.—C. S. Fudge, 6, College Terrace, London Road, Southampton.
- " 6, 7.—WEST OF ENGLAND.—Charles Wilson, North Hill, Plymouth.
- " 6, 7, 8.—NATIONAL CHRYSANTHEMUM SOCIETY.—R. Dean, V.M.H., Ealing, London, W.
- " 7, 8.—BOURNEMOUTH.—James Spong, Lindisfarne Gardens, Bournemouth.
- " 7, 8.—CARDIFF.—H. Gillett, 66, Woodville Road, Cardiff.
- " 8.—LAUNCESTON.—Edward Leamon, St. Stephens, Launceston.
- " 8.—WINDSOR.—Herbert Finch, Bank House, Eton.
- " 9, 10.—ALTRINCHAM.—W. Hazlehurst, 40, Railway St, Altrincham.
- " 9, 10.—ECCLES.—J. H. Bryan, 134, New Lane, Peel Green, Patricroft.
- " 9, 10.—SHEFFIELD.—Wm. Housley, 28, Joshua Road, Sheffield.
- " 13, 14.—BELFAST.—J. Machride, Victoria Square, Belfast.
- " 13, 14.—LEEDS.—W. Smith, The Gardens, Weetwood Hall, Leeds.
- " 14, 15.—HULL.—Edward Harland, Manor Street, Hull; Jas. Dixon, F.R.H.S., 2, County Buildings, Hull.
- " 14, 15, 16.—YORK.—G. F. W. Oman, 38, Petergate, York.
- " 15, 16.—PARKSTONE.—T. K. Ingram, Parkstone Nurseries, Dorset.
- " 16, 17.—BOLTON.—Jas. Hicks, Markland Hill Lane, Heaton, Bolton.
- " 16, 17.—BRADFORD.—R. Eichel, Eldwick, Bingley.
- " 16, 17.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.
- " 16, 17.—MACCLESFIELD.—W. Oldham, 153, Great King Street, Macclesfield.
- " 21, 22.—BIRKENHEAD.—W. H. Yeo, 3, Clarendon Street, Birkenhead.

Lemon Queen.

THIS first-rate variety deserves more than a passing note, for it is the best of its colour of any variety we know for outdoor culture, and quite striking amongst a mass of sorts. It has reflexed blooms, about 3 inches across; these are borne in profusion, and the stem is stiff and wiry. The flowers open all at a time, a consideration either for cutting or massing. Although named Lemon Queen, the blossoms are a deep rich yellow, and they have unusual substance. It is dwarf; not more than 2 feet high, and bushy. Now, the first week in October the flowers are fully out, so that it is a variety which may be recommended to bloom before frost is likely to spoil it.—S.

Exhibition Varieties at the Aquarium.

SOLEIL D'OCTOBRE a few years ago appeared as a good medium-sized bloom of exceptional merit as a decorative variety. It is now one of the best and largest early exhibition Chrysanthemums, canary yellow in colour. Blooms of this variety were exceptionally fine at the Aquarium. Mrs. Coombes was represented by flowers of good colour and fair size, though perhaps not so large or fully developed as the November shows may reveal. Rayonante is uncommon in form; it is the best representative of the long-fluted or tubular floret. Its colour is a flesh pink. It grows strongly, has a good habit, and

produces exhibition blooms on the first crown bud. Triumph is a new sport from Mons. Chenon de Léché. The blooms are of a bronze colour with a yellow reverse. Tephoris is a bright early yellow, one of Calvat's novelties, and promises to be good. Exmouth Gem is an excellent deep dark crimson.

Among the best white blooms which were on view at the Aquarium were Mutual Friend, Mrs. White Popham, Emily Silsbury, Gustave Henry, Simplicity, Miss Alice Byron, F. Molyneux, Mrs. J. Lewis, Nellie Pockett, Lady Ellen Clarke, Lady Crawshaw, and Lady Northcote. Some good yellows were Ella Curtis, J. R. Upton, Modesto, Sir H. Kitchener, Madame Von André, sulphur; President Nonin, Mons. Fatzer, Miss E. Pilkington, Oceana, R. Hocper Pearson, and Phoebus. The dark colours, red, crimson, carmine, were finely represented in T. Carrington, Henry Weeks, Pride of Madford, Iserette, Reginald Godfrey, Lionel Humphrey, and Helen Shrimpton.—E.

Early Flowering Decorative Varieties at the Aquarium.

NATURALLY the greatest amount of interest centres in the November exhibition at the Aquarium, Westminster, when the cream of the best exhibition varieties are to be seen. The October exhibition recently held was, however, extremely interesting, not only for the display of large early blooms of Japanese varieties, some new and some old, but also for a very complete and interesting display of early flowering outdoor varieties. These are very pleasing and effective for cutting for decoration, and a collection, according to the demand for them, ought to be grown by all who like the small free flowering varieties of early Japanese and Pompons. Several firms exhibited good collections of these early outdoor blooms, setting them up in large loose bunches, so that the general effect of each could be clearly seen.

Some of the best varieties among the Japanese were Alfred Droz, canary yellow; Bronze Prince, bronzy yellow with chestnut red tips; Coral Queen, a most attractive variety of a beautiful coral colour, rather uncommon; Crimson Queen, which flowers well in October; Edie Wright, light pink; Edith Syrratt, a free flowering dwarf pink; Harvest Home, red with gold tips; Lemon Queen, bright yellow; Madame Marie Masse, lilac mauve; Crimson Marie Masse, a beautiful crimson sport from Madame Marie Masse, this is free flowering like the parent; Nellie Brown, the reddish-orange sport from Ryecroft Glory, yellow; Maria, similar colour to Progne, which is a small late reflexed variety; Miss L. Stevens, blush white, small compact blooms, extremely neat and effective; Notaire Groz, lilac mauve or pink; President Lefevre, blush pink; Sam Barlow, salmon pink; White Grunerwald, white; and Zephyr Lionet, bronze on a yellow ground, a pretty variety. Madame C. Desgranges is such a well known white Japanese that there seems no need to mention it, but it was staged in the competitive groups and helped the chief prizewinners in the classes for early flowering varieties.

The early Pompons, though bearing very small flowers, are wonderfully pretty and neat, the petals being clearly cut and regular. Arranged with the looser flowers of the Japanese types they form a nice contrast. Anastasia is an exceedingly good light purple, Blushing Bride is rose lilac, while Bronze Blushing Bride is a sport from the preceding. Canari is pale yellow; Golden Fleece, a clear yellow, and Flora, a golden yellow. Madame E. Lefort, orange and amber, is a really pretty variety, and many bunches of it were shown. La Petite Marie, a small but pretty white, was not largely represented. Little Bob is bright crimson, a good old variety, as also is Lyon, a fair sized Pompon, rosy purple. Martinmas, blush pink, and Bronze Martinmas. Mr. Selley, rosy lilac. Piercy's Seedling, bronze, are all good. Rose Wells, a deep pink, is a dwarf grower. A very attractive group of this variety in pots edged with La Petite Marie, and backed with several other varieties, was a pleasing and refreshing feature. The remaining Pompons were Strathmeath, rosy pink; Toreador, reddish bronze; White Lady, and White St. Crouts.

Attention may well be directed to two excellent sports from Lady Fitzwygram, both of which are yellow and similar in size—namely, Primrose Queen and Mrs. J. Williams. The latter variety gained an award of merit from the Floral Committee of the R.H.S. A group of both these varieties was formed at the Aquarium, and they made an excellent display, the plants being dwarf and well grown, and the flowers of good decorative size. Another variety, a splendid bronze, is named Ettie Mitchell. It is one of Godfrey's seedlings, and will doubtless prove useful. Edith Benyon, lavender, is a new 1900 seedling of Jones'.—E. D. S.

A Seasonable Hint.

EVERY attention must be paid to those plants that are to yield large flowers. The majority must be under cover, and the remainder placed where they can be protected or lifted inside in case of frost. Early frosts often compel the housing of these plants to take place before it would otherwise be necessary, the thermometer having already fallen below the freezing point. The very light frosts do not

appear to do harm, but they do the plants no good, and protection from such influences should be provided. When the plants are housed be careful not to crowd them, for it is important to preserve their lower foliage until the last. The preservation of the foliage insures the activity of the roots, which must be also assisted by top-dressing and judicious feeding. Admit abundance of air at first, and avoid unduly exciting the plants, or the flower buds will come forward too rapidly to insure their being of good size and perfect form.—A. G.

Incurved Chrysanthemums for Exhibition.

EXCEPT for show purposes this type of the Chrysanthemum is not particularly useful now that there is such a diversity of shapes among the Japanese. The latter, however, when they do partake of the globular form, are not to be compared to the former in one respect—that is, smoothness. Of late years there has been, perhaps, too much mixing of the classes, and it is difficult to say whether or no some of the recognised incurved flowers really belong to that group; but now, as formerly, depth, outline, and absence of roughness are the qualities to be sought if prizes are to be won.

Flat incurved specimens are not at all desirable, and the grower should aim at getting them as near in measurement of depth and width as is possible by good culture. One of the chief things to aid this is well-ripened wood. That of a soft, big, sappy nature, is sure to produce blooms not up to our ideal, so that overfeeding is not advisable. If the growth is now in the condition indicated, and the pots are well filled with roots, there is no reason why, with the proper treatment, satisfactory flowers should not follow. One thing this type of the Chrysanthemum does not respond to is fire heat; that is to say, enough only may be applied to keep damp out of the greenhouses. Nor must these be closed from air. A close atmosphere tends to make the florets reflex, and over-abundant warmth takes away the substance of the same.

Exhibitors have many schemes in trying to obtain the desired form, one of which is to train the stems up to the front of the houses, so that the blooms may hang. In this way it is thought the florets are more likely to be forced into shape. We, however, do not favour such a plan, because the light of the glass has a tendency to draw the flower stem, and in fact make the whole bloom one-sided. We like to tie each flower in an upright direction, so stiff that the florets fall evenly all round. By doing this there is plenty of room given to the hundreds of florets of an incurved bloom to expand, and we thus aid the quality of depth.

Then it is well to go over each promising flower almost daily, and with tweezers take away short, quilled, or badly formed petals. It often happens that a great number more form than can properly extend. For instance, that fine type C. H. Curtis is one which may be much improved in this way; in fact, nearly all of the present day sorts require this manipulation. If the work be done from the beginning, there is little need of assistance when the bloom is fully expanded. It often happens, too, in the case of incurved Chrysanthemum blooms, that when they are half open a big tuft of florets forms in the centre—some wanting to go one way, and some another. We may pull out all those pointing in an outward direction with much benefit to the flower. This taking away should be done clean, for decaying parts quickly spread.

Sunshine again has a tendency to make the florets reflex, and so has securing early buds, at least with most varieties. I remember a grower asking the advice of a trader who distributed a fine new incurved variety, which was splendidly shaped on late-formed buds, but a loose "Jap."-like shape from early ones. The advice was to show it as a Japanese if it came like one, and if an incurved exhibit it as such. But to-day, we fear, with lists of sorts that may be put up as incurved only, such a way out of the difficulty would lead to further trouble. Yet one might name many so-called incurved varieties that do so differ in character developed from different buds. Even that type which was for years the ideal one—the Empress of India form—did not always produce incurving flowers.

The grower should aim at getting the blooms fully out whilst yet on the plant and in the glass structure. We have known exhibitors who have become anxious about the date of a show, fearing the flowers would not last, putting them still undeveloped in a dark shed to retard them. This is a mistake, as they will not finish the centre petals properly, and thus an important point is lost. Let the bloom be fully out before trying to retard it. After that period most sorts may be kept a week or ten days quite fresh if placed in the dark, plant and all, and the latter should not be watered unless the foliage flags.

In setting up incurved blooms another point should not be lost sight of, that is, well grown blooms look better if staged fairly high on the board. The base of the flowers on the lower line ought to be quite clear of the stand, the second row high enough to show the lower portion of the blooms, and the back row similarly high. To place them flat is to show them to the least advantage.—SPECIALIST.

United Horticultural Benefit and Provident Society—Annual Dinner.

It cannot be too widely known amongst the gardeners of the United Kingdom, particularly, perhaps, by those who are practically still on the threshold of what, it may be hoped, will prove a long and prosperous career, that this is an institution which, in a quiet, unobtrusive way, is doing an immense amount of good solid work on behalf of those whose lives are given over to gardening. As has been said on more than one occasion, it was "instituted by gardeners, is managed by gardeners, for the benefit of gardeners." Never in its history of five and thirty years has this splendid policy been deviated from, and the result is that after early struggles in comparative poverty, it passed on to an age of progress, and lives now in what may be justly designated an era of prosperity. May this last stage be maintained is the sincere wish of everyone who has the best interests of the craft at heart. On Thursday evening, under the presidency of Mr. George Munro, the fourteenth anniversary dinner was held in the Venetian Chamber of the Holborn Restaurant, when considerably over one hundred members and friends sat down. The chairman was supported by Messrs. J. Munro, H. J. Veitch, W. Roupell, G. W. Roach, Arnold Moss, C. Osman, H. J. Ingram, Peter Kay, V.M.H., H. J. and W. Cutbush, J. Hudson, J. George, Nathan Cole, W. Farr, with many others, in addition to the secretary, Mr. W. Collins.

Immediately upon the conclusion of the report and following the loyal toasts, Mr. Munro rose to propose the toast of the evening, "Continued Prosperity to the United Horticultural Benefit and Provident Society." At the outset the chairman carried his auditors back to 1865, when the society was formed, and observed that for twenty years it did not flourish. In or about the year 1885, however, the *Journal of Horticulture* spoke powerfully in favour of the society, and to the work done by this Journal at that period Mr. Munro ascribed much of the excellent progress that commenced therewith and has since continued. There were now, he remarked, 800 members, of whom sixty-five had joined since the last anniversary dinner. He was pleased to see so many young men present, and trusted that those amongst them who were not already members would lose no time in having their names added to the roll. Pointed reference was next made to the fact that there were two scales of payment, one of which called for an outlay of 9d. per week, the other 6d., which carried the respective benefits during illness of 18s. and 12s. for twenty-six weeks, and 9s. and 6s. for a further twenty-six weeks, thus giving the member very substantial relief for a complete year. Then, said the chairman, there were the Benevolent Fund, to which everyone had to contribute a small annual sum; the Management Fund, which called for 2s. 6d. per annum from every member; and the Convalescent Fund, which is entirely supported by the voluntary contributions of members and their friends, and which owed its origin to Mr. N. N. Sherwood, V.M.H. As implied in its name, the object of this latter fund was to send a member who had been ill, and who was still unable through weakness to resume work, to the seaside or other approved place to recruit. This is a scheme that is obviously worthy of all support. Then, said the speaker, though a member's balance was constantly being augmented, he could draw nothing until he was seventy years of age, but notwithstanding this he did not consider that the balance of £16,000 was any too large. It was necessary, he remarked, in considering this amount to bear in mind the fact that the society was comparatively young, and to face the inevitable fact that during the coming twenty years many members would attain to the age which allowed them to withdraw their money for the benefit of their old age. He called attention to the fact that though no hat would be passed round any money that might be contributed at the dinner would be placed to the credit of the Benevolent Fund, unless otherwise stated, and added that money was wanted and could be well employed. The outlook for this association, which is at once a benefit society, a bank, and an insurance corporation, Mr. Munro considered good, and at this juncture he paid a graceful and thoroughly deserved tribute to the excellent work done by Mr. Collins, whom he thought was hardly likely to die a millionaire from the salary he was receiving as secretary. Gardeners, continued Mr. Munro, who did not belong to the society were worse than foolish, and he called upon the present 800 members to put their shoulders to the wheel, and by concerted effort to induce their friends to join, as the more there were the greater the amount of good that could be done. Mr. Munro was heartily applauded on the conclusion of his forceful speech.

The name of Mr. Jas. Hudson, V.M.H., was coupled with this toast, and he, as treasurer of the Society, gave the meeting some pertinent facts in the shape of figures. This financier-gardener evidently believes in advertising, for, said he, "when you have got a good thing make it known." This is excellent advice that might be advantageously applied to various things connected with the craft besides this society. Mr. Hudson was, he said, looking for the time when the roll of members reached 1000 and the total sum invested was £20,000. Then, and not till then, he said, he might feel inclined to retire from his post. But we can inform Mr. Hudson that it is quite certain that the members would not let him go without a struggle, even when such an Arcadian

state of affairs is reached. The working expenses, proceeded the speaker, amounted to 2s. 10½d. per member, of which, as the chairman had told them, each member was compelled to pay 2s. 6d. He was hoping that ere long they would be paying their secretary a respectable salary, and called attention to the report being almost a directory, inasmuch as it contains the names and addresses of 800 members. Mr. Hudson then called attention to the most interesting fact that there were three of the original members present at the dinner, of whom at least two signed the rules that were submitted for registration under the Friendly Societies' Act. These gentlemen were Messrs. Nathan Cole, Jas. George, and Joe Wheeler. He hoped for the continued and increased prosperity of the institution.

Mr. Chas. H. Curtis next submitted the toast of "The Honorary and Life Members," remarking that the society was immensely indebted to those gentlemen, not so much for the money they subscribed as for the beneficial influence their names exerted on behalf of the funds. Several of them were, he observed, employers of labour, who by their example might induce those under them to subscribe to the funds of a society—a proceeding which was succinctly described as tantamount to taking money from one pocket and placing it carefully in the other. He thought an increase of life and honorary members would go far in aiding them to reach the much desired 1000 ordinary or paying members. Mr. Curtis coupled with this toast the name of Mr. Arnold Moss.

Mr. Moss opened in his usual dryly humorous style with a reference to the fact that he had been honoured with the letters V.M.H. after his name in the toast list. He had, he observed, no idea what they meant, but possibly it was "vice master of hounds," or "very much here," but whichever was the true interpretation he would endeavour to earn it before the next golden jubilee. Mr. Moss strongly urged young men to join the ranks of a society which offered so many manifest advantages, and encouraged that spirit of independence, which he thought was not so conspicuous now as was the case in years gone by. Mr. Moss did not speak at great length, but his remarks were listened to with pleasure by everyone present.

The remaining toasts having been duly proposed and responded to, a most successful gathering was brought to a close, and we trust that at the next anniversary dinner the membership will have made a material advance, and that the 1000 will be an established fact.

We learned that the subscriptions included five guineas to the Benevolent Fund from Mr. George Monro, five guineas to the Convalescent Fund from Mr. N. N. Sherwood, and five guineas from Mr. Harry J. Veitch, one guinea from Mr. T. N. Cox, half a guinea from Mr. G. W. Roach, Spitalfields Market, and a similar amount from Mr. R. Dean, V.M.H. In addition to these Messrs. W. Cutbush & Sons, Highgate, and Willingham Bros., Pineapple Nurseries, become honorary members at a subscription of one guinea per annum.

Young Gardeners' Domain.

The Royal Horticultural Society's Examination.

WITH the shortening days of autumn the usual evening classes and different series of lectures on horticultural subjects, held under the auspices of the County Councils and other bodies appointed to undertake the management of technical instruction work, will be commencing, and many industrious climbers on various rungs of the ladder of horticultural success will be turning their minds to such unaccustomed studies as botany, chemistry, entomology, and geology, in the expectation of obtaining one of those much-coveted rectangular pieces of cardboard bearing the signatures of the president and secretary of the Royal Horticultural Society, and testifying that so-and-so passed in the year 1901 the annual examination held by that body. The time may not therefore be altogether inopportune for again repeating the question which by this time begins to bear the aspect of a hardy annual:—"Is the certificate presented by the R.H.S. for passing its examination of any real value to a practical gardener, and if not, could it be made so?"

That to obtain a good place in the examination a certain amount of intelligence and education, as well as a theoretical knowledge, extending over a considerable area of general garden and greenhouse work, is requisite cannot be doubted. But the question as to whether the successful examinee is likely to be a more thorough or efficient gardener scarcely seems to need discussion, when it is remembered that the bulk of the first places go to candidates from various training schools and colleges, and that boys of sixteen or seventeen, and even girls, with six months or a year's coaching, stand a better chance of appearing high up on the list than a sound practical gardener of twenty years' standing. As a duel between the big technical instruction centres it may be very interesting, but as a test of gardening skill or attainment in any direction it is of scarcely any value. Hardly anyone, either a private employer or a nurseryman, would think of taking into consideration the possession by an applicant for a situation of a first-class certificate; he would only take account of the previous positions which his prospective employé had held, the number of years he had worked at his trade, the kind of stuff which he had had the greatest

experience in growing or attending to, and would expect to know from a former employer whether he was efficient in any particular branch.

From the nature of the examination it seems as though a certificate may be as much a testimonial to vigorous cramming as to anything else. It is quite conceivable that a candidate might answer correctly enough on paper a question on budding or grafting, for instance, without ever having seen the operation performed, much less being able to do it; or he might write out a detailed account of the culture of the Grape and the Melon without knowing a Vine from a Melon plant—and, in fact, to obtain almost full marks for each of four of the eight questions set in that part of the paper relating to horticultural practice. A certificate can therefore be of little value to a practical gardener, of whatever grade, as a recommendation or as a test of ability in his profession; though, on the other hand, it would be idle to argue that if a candidate takes up the study of the theoretical side of his work, and reads as well as practises, and endeavours to understand the scientific reason for many of the things he sees done, and to think and reason out ways and means for himself, he can derive anything but benefit from it, whether he gets a certificate or not.

But with the centenary of the Society in the minds of its Fellows, is it not time to inquire if some practicable scheme could not be inaugurated for organising the ranks of the gardening profession, and some method evolved whereby a diploma or certificate could be given by the Society to those deserving it? At the present time the gardening employés, almost alone among the trades, are without any union or trade society whatever. There is no distinguishing line between a man who is a gardener and one who is not a gardener; no standard whereby a man may be judged an efficient horticultural craftsman or the reverse, and as a consequence there are many men posing as practical gardeners who, by an easily obtained testimonial from some good-natured former employer, are occupying positions for which they are not qualified, to the detriment of the place under their charge, and keeping out, it may be, a good man of many years' experience. Possibly to this, partly, may be attributed the low wages which rule in the gardening industry, for it cannot be denied that the wages, both in private and nursery work, whether to journeymen, growers, or foremen, are, generally speaking, lower than in any other skilled trade, taking into consideration the experience required and the amount of intelligence necessary to attain even moderate success.

It is a fact that to make a mark in gardening a greater amount of real interest in the work than in most other callings is indispensable, but in these times the gardener alone can hardly be expected to continue on for mere love of his occupation without more adequate remuneration than he receives at present. A gardeners' trade union, on the lines of similar organisations, is probably impracticable, and nothing is to be more deprecated than any attempt to stir up ill feeling between employer and employé, or to disturb the amicable relations generally existing between them, but would not a recognised standard, such as that which would be provided by a diploma in horticultural practice from the R.H.S. benefit employers as well as employés? If the Society could devise a scheme for presenting a diploma to any gardener, earning his living as such, who could show a certain number of years' reference, say five or six, from a previous employer or employers, and present a satisfactory character from his present employer, and at the same time pass an examination somewhat similar to that held at present by the R.H.S. as practical as a written examination can be, and with special reference to that branch which he may have made his specialty, a standard would be created which it ought to be the ambition of every gardener to attain to. It would assist in preventing incompetent men taking places to which they are not entitled, and thus mitigate the tendency towards lower wages, and would be of benefit to employers by calling into existence a class of men on whom when engaging they could usually rely.

Such a scheme would, of course, require the co-operation and support of all those amateurs and nurserymen who have the interest of gardening at heart; it would necessitate an understanding that good references were not to be given unless thoroughly deserved, and perhaps a not too indulgent system of marking examination papers; and it would entail some labour on any Fellows who might place themselves at the disposal of the Society as inspectors or examiners. Considering, however, the benefit which might accrue to all those engaged in gardening, the better standing of the trade in public estimation when no one will be able to remark, "Oh, anybody can be a gardener," and the greater sense of security which might be experienced by all sections of the gardening industry; the employer by knowing that a man who can show his diploma is probably a good and trustworthy man, and the employé by possessing something to show that he is an intelligent and efficient gardener, and consequently worth his money. Would not some such plan be worth the consideration of the Royal Horticultural Society if a convenient occasion occurred at any time?—A. DAY, Herts.

Trade Catalogues Received.

H. Cannell & Sons, Swanley and Eynsford.—*Autumn Catalogue.*
Dicksons, Ltd., Chester.—*Forest Trees, Ornamental Trees, and Evergreens.*
H. P. Kelsey, Tremont Building, Boston, Mass.—*American Hardy Plants.*
B. S. Williams & Son, Upper Holloway.—*Fruit Trees, Roses, Shrubs, and Herbaceous Plants.*



Hardy Fruit Garden.

Preparation of Soil for Planting.—This matter should claim attention now in order to have the ground in readiness when the trees arrive early in November. The soil is comparatively dry now and works easily. The thorough preparation demanded, too, takes up considerable time, and there is a chance for the soil to settle down firmly before planting the trees.

The best method of preparation is undoubtedly trenching, as by this means the lower spits of soil are well broken up. It is not necessary that the spits of soil be reversed, hence bastard trenching should be the plan adopted so as to retain the spits of soils in their original position. This is especially necessary where the subsoil is poor and not suitable for bringing near the surface. Trench 2 feet deep, and loosen the bottom spit below this with a fork. Where a plot of ground is to be planted with fruit trees and bushes it is the best plan to prepare the whole piece of ground so that it may be of uniform depth and quality throughout. Trees and bushes to be planted at long distances apart will require special stations prepared for them. These positions must not be less than 6 feet in diameter if of circular form. Six feet square positions will provide ample rooting space. For Apples, Pears, and stone fruits generally manure should not be applied, as it causes too strong growth, but if the soil is deficient in quality work in some loamy soil.

For Currants, Gooseberries, and Raspberries the soil may be enriched more liberally with manure, incorporating it well with the staple, and also adding wood ashes, which assist the roots to take early root.

Gathering Fruit.—The majority of late Apples may now be picked, exercising care not to injure the choice specimens. Store in a cool room. Late Pears will hang a short time longer and improve in ripening should the weather be favourable.

Examining Stored Fruit.—The fruit room being now well occupied with the different varieties of Apples and Pears frequent attention is necessary in order to remove defective specimens. Fruit bruised and damaged when gathering must be used as soon as possible. Do not handle the fruits stored in single layers more than possible. Arrange Pears in the warmer part of structure and Apples in the cooler.

Gathering and Storing Cob Nuts and Filberts.—When the nuts and husks are quite brown and easily separated they are ripe and ready for gathering. It is best to pick and not shake them off the bushes. Before storing place in the sun for a few days to thoroughly dry the husks. Then pack the nuts in jars, sprinkling in a little salt as they are being filled in, which will prevent mould appearing and keep the kernels crisp. Store the jars in a cool and dry situation.

Outdoor Figs.—Secure young growths their full length, not, however, laying them in too thickly, but so that they can receive plenty of light and air to become firm and well ripened. Remove young Figs the size of Filberts, as it is impossible for them to develop this season.

Outdoor Vines.—Shorten the laterals, and stop leaders making further growth. Secure all the principal rods to the wall or trellis. The soil must be thoroughly moistened if very dry, and enriched with liquid manure.

Wall Trees.—All trees may advantageously be examined and superfluous shoots cut out, so as to enable the principal bearing wood laid in to ripen well. To do so, however, it must be disposed thinly. Soft young green shoots will be of little use, and may be cut or rubbed out. Remove exhausted branches or shoots and dead wood, shorten elongated spurs, and thin them out where growing too thickly. In some cases it will be necessary to remove crowded branches, and practically re-arrange the trees.

Standard Trees.—The present is the best time to give attention to trees that contain more wood than is good for them. Remove all unsuitable branches, principally from the centres of the trees, including those that cross one another. Cut out weak wood, dead material, and useless spray.

Blackberries.—The cultivated forms of Blackberries require a strong rich soil of good depth. Blackberries flourish under similar conditions to Raspberries, though they are rather longer in becoming established and producing their long strong growths. The planting canes should be furnished freely with fibrous roots, and may be inserted any time at this season. The situation must be sheltered, though open. The best results will follow if the ground is trenched to the depth of 2½ feet, liberally manuring during the process. Good decomposed cow manure is the most suitable for light soil, as it will help to make it more adhesive. Heavy soil ought to be freely worked before planting, adding a moderate amount of farmyard manure.

The rows must be at least 8 feet asunder, the plants being arranged at 5 feet distance from each other in the rows. Fix a stake to each plant, and one midway between, all of them being 6 feet high. To

these fix horizontal lengths of wood or wire, on which the long canes when they are produced may be trained. The first season the planting canes should be cut down closely, doing this in spring, before growth commences; and if the first year's growth is not strong and satisfactory, repeat the process again. With established plants the new canes must be reduced to four or five each season, selecting the strongest, which should be well ripened. Mulch the ground freely with manure in autumn, and apply liquid manure in summer.

Fruit Forcing.

Cucumbers.—The autumn or early winter fruited are now in full bearing. The plants must not be overcropped, therefore cut the fruit when of suitable size, also remove all ill-shapen and surplus fruit. Go over the plants once a week at least and remove all bad leaves, stopping and tying the growths, laying in no more wood than can have full exposure to light, cutting away the superfluous shoots. Winter fruited do best if allowed to extend well up the trellis before stopping them, removing all side growths on the stem up to the trellis, and train the growths right and left of the stem, not too closely, as well developed foliage is very important. Remove all male flowers, and cut off tendrils as they appear. Add fresh, warmed soil as often as the roots have fairly covered the sides of the ridges or hillocks, and if they need vigour, or are pale in the colour of the leaves, use a little soot, and an occasional dusting of the bed with a little superphosphate will tend to improve the substance of the whole plant. Maintain a temperature of 70° on mild, 65° on cold nights, 70° to 75° by day artificially, advancing to 80°, 85°, or 90° with sun heat. Admit a little air at the top of the house on all favourable occasions.

Vines.—*Earliest Forced in Pots.*—To produce ripe fruit in late March or early in April the Vines are best grown in pots, as stated in a former calendar, selecting early sorts, such as White Frontignan, Buckland Sweetwater, and Foster's Seedling in white Grapes, and in black Royal Ascot, Black Hamburg, and Madresfield Court. They should now be in position preparatory to starting them early in next month.

Earliest Forced House.—Where late Grapes are not cultivated extensively to maintain a supply to May, or thin-skinned varieties are required by April, preparations must be made for early forcing. The Vines having been pruned in September, the loose bark stripped off, the house may be cleansed, the border top-dressed, and the Vines dressed with a solution of softsoap, 3 ozs. to a gallon of water, adding flowers of sulphur previously moistened with skim milk to form a cream, with a fluid ounce of petroleum, which combined form a mixture effective against Vine pests, mildew, red spider, thrips, scale, and mealy bug. To have Grapes ripe in April the house must be started next month, as under favourable conditions five months are required to produce ripe Grapes (of even the early varieties) during the duldest period of the year. It can be done in much less time, but the strain on the Vines is so great that they are little good afterwards.

Midseason Houses.—When the leaves are all down the Vines should be pruned, any Grapes being cut with enough stem for inserting in bottles of water and placing in a cool, rather dry room, where they will keep better than on the Vines, especially where there are plants in the house. This will allow of the thorough cleansing of the house and Vines, upon which much of success or otherwise depends in the coming season. It is better to do this than leave the house and Vines in a dirty condition until a convenient time, which is usually performed badly later from the press of other matters, and the pests have time to hibernate in retreats where they cannot be reached by insecticides. Where Grapes are hanging air will need to be admitted on all favourable occasions, and a gentle warmth be maintained in the hot-water pipes, so as to promote a circulation of air in dull, damp weather, and prevent the deposition of moisture upon the berries.

Late Grapes.—There is little difficulty in keeping such thick skinned Grapes as Alicante, West's St. Peter's, Gros Guillaume, Gros Colman, Mrs. Pince, Alnwick Seedling, and Lady Downe's, provided the roof be waterproof, drip avoided, and moisture prevented from deposition on the berries, which can be done by judicious ventilation and gentle warmth in the hot-water pipes. White Grapes, however, except Calabrian Raisin, which has a tough skin, do not keep nearly so well, both Syrian and Trebbiano being in degree only less liable to spot than Muscat of Alexandria, which when finished so as to hang in good condition till January or later, is, with Canon Hall, supreme among Grapes. The great enemy of the two last named varieties is spot, and that of two kinds, first that caused by moisture on the berries, and second that resulting from the action of a fungus; but the latter cannot attack the berries successfully till their epidermises are suffused with moisture in a stagnant state—that is, resting, though imperceptibly, on them. The means, therefore, of avoiding both is to prevent the atmosphere becoming stagnant, a temperature of about 50° being necessary, and air must be given early on fine mornings, with warmth in the pipes to expel moisture and allow of the berries being warmed equally with the surrounding air, moisture being kept from condensing on the berries. There must not be anything like a leak in the roof, no mouldy leaves or decayed berries, and moisture kept down as much as possible; that likely to arise from the border being prevented by covering it with clean dry material, than which nothing answers better than roughly cut, clean and dry wheat straw.



* All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Thrips on Vines (*Anxious*).—There is no better or surer way of eradicating thrips than sponging the leaves with Gishurst compound or other approved insecticide. Just before the leaves fall we should gather and burn them. Where Vines are seriously attacked the insects get into the bunches and spoil the fruit. When the Vines are pruned the rods should be thoroughly cleansed, also every part of the house and the plants in it, or you may have more trouble next year.

Keeping Walnuts (*R. A. C.*).—In gathering the nuts should be ripe, the husks parting easily from the nuts. Spread the nuts in a dry airy place, and turn them occasionally till the husks come off readily. The shelled nuts, when dried with a cloth, or rubbed dry by two persons shaking a convenient quantity to and fro in a sack, not employing so much force as to break the shells, may be packed in alternate layers with sand in jars, and stored in a cool place. A little salt scattered over them as they are put in saves them from mould and keeps the kernels plump, but flavour is best preserved in the ground, the nuts being placed in flower-pots and buried in a chamber on the north side of a wall, as described in the *Journal of Horticulture* last year, and to which you allude.

Lapageria Leaves Falling (*G. H. F.*).—The leaves have the appearance of being scorched, and fall because their juices have been abstracted by thrips, of which we found some specimens in the perfect or winged state, but no larvæ or eggs. There are also some white or Lapageria scale, which are far worse than the thrips, and some of them are in the egg state and others in the larvæ condition, beneath the body and "shell" of the parent or old scale. Have the plant carefully sponged on the under side of the leaves and everywhere with the following:—Place a quart of soft water in an iron pan, heat it to boiling, with 4 ozs. of softsoap, then remove from the fire and at once add a tablespoonful of petroleum, stirring briskly until the oil amalgamates with the softsoap solution, and when cool enough sponge the plant with it. After the plant has been sponged, syringe with water at a temperature of 120°. This will give you a clean plant, and it will push fresh growths from the stem that may do good service, but that depends entirely on their being kept free from insects.

Leaf Soil from Oak Leaves (*E. A. R.*).—In Oak woods and coppices we have always noticed that where the Oak leaves accumulated as top-dressings among the brake there the brake grew best, and there in time was formed a half peat-like bed that was unsurpassed for general plant growing, and more especially Ferns. There is tannic and also some gallic acid in Oak leaves, but it is so small as not to be harmful; and you may satisfy yourself of this by examining the roots of any vegetation near or among the leaves. Moreover, tannic acid is soluble, and when leaves have lain damp in the position, and for the length of time you name, very little tannic acid will be left, even supposing it not to be decomposed, which it readily does under conditions that turn leaves to soil. But a simple way of testing whether a sample of leaf soil is unwholesome or not is to sift some with loam and sand and root cuttings of some plants with fleshy roots and examine these. If they root freely and, on examination, are found healthy, all is right.

Chrysanthemums for January (*J. C.*).—The plants should be left outside as long as possible, and to insure their safety they must be protected from frost. Any rude lean-to or span-roofed structure will answer the purpose well. The pots may be plunged to keep them from being knocked in all directions by heavy winds. The sides of the structure can be protected with mats and the top with canvas blinds. The latter should be drawn up early on fine mornings and the mats removed. During severe stormy weather they may be kept on. This light protection will be ample to save them from injury until near Christmas, unless severe weather set in exceptionally early. In some seasons they can be kept outside very late without the slightest protection, but one frost may upset the whole work of the season, and therefore it is advisable that provision for their protection should be made. When the whole or nearly the whole of the plants are placed inside at one time the majority are in flower all at once, and do not therefore prove so useful as if brought forward in numbers according to the demand. There should be no difficulty in having a supply of these flowers until the middle or end of February.

Euphorbia jacquiniæflora (U. B.).—Plants that have been in cold frames up to the present time must be removed to a house or pit where the atmosphere can be drier at night, and the temperature at about 55°. If left in cold frames after this date the foliage is very liable to turn yellow, especially if too much water is given at the roots. If removed to a heated structure care must be taken that the plants are not excited again into growth, or they will soon become tall and weak, and in the end flower but poorly. To avoid this no artificial heat will be needed for some weeks yet during the day, and only at night when the temperature is likely to fall too low. On all favourable occasions air should be liberally admitted during the day as well as at night. If the pots are full of roots stimulants may be given in a weak state every time water is applied, nothing being better for these plants than liquid made from cow manure and clear soot water. If the plants display any signs of starting into growth feeding must be discontinued for a time, at least until this tendency is checked.

Black Hamburgh Grapes Shrivelling (*Young Gardener*).—Sometimes the berries shrivel from shanking, and are very inferior in quality. This is caused by a disease, and chiefly is manifested at the time the Grapes commence ripening and during that process, the footstalk of the berries shrinking and turning brown or black in a more or less circular manner and completely encircling the footstalk. This malady generally arises from defective root action, the roots not being in a border of suitable material, of proper staple, and thoroughly drained. Another cause of Grapes shrivelling and occurring after they are ripe is dryness at the roots both before they are finished and afterwards. Once this commences after the Grapes are ripe, or only partially so, they cannot be restored to plumpness by watering at the roots or moisture in the atmosphere, for they have attained more or less to the condition of raisins, and will decay if moisture be given at the roots and in the atmosphere, usually falling a prey to the ripe rot fungus (*Glæosporium Berkleyi*).

Privet Hedge (P. B. D.).—Dig or trench the ground fully a yard wide, mixing with the soil some well-decayed manure. Plant in November bushy specimens of the evergreen variety with good roots 6 inches apart. Cut down in spring to within 6 inches of the ground when the buds begin swelling, trimming in the sides. This will cause the plants to branch freely and become dense at the base. Trim the sides a little in August; in fact, cut them back so as to form a base of not more than 9 to 12 inches width, slightly tapering upwards, and in September cut off the top, the mere tops only, so as to form an even height. This will be determined by the lowest parts, which will probably be 18 to 24 inches high. The following year the hedge will advance rapidly, and may be treated as in the previous year, when a hedge will be had about a yard high, but it is well not to let it grow too tall without heading, otherwise it will be weak. About a foot in height is sufficient to gain in each year after the first up to a height of 3 feet, and then 6 inches gain each year until it is of the height required. A hedge may be had quicker by planting bushy plants 2 to 3 feet apart, merely trimming in their irregular side and top growths.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. *They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state.* The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (W. B.).—1, Flower of Kent; 2, Claygate Pearmain; 3, Herefordshire Pearmain; 4, Franklin's Golden Pippin; 5, unknown, probably a local seedling; 6, Emperor Alexander. (W. C. D.).—1, Gloria Mundi; 2, Yorkshire Beauty; 3, a seedling, that never had a recognised name. Pears: 1, poor specimen, possibly Maréchal de Cour; 2, poor specimen, resembles Van Mons Leon Leclerc. (J. W.).—1, probably a local seedling, that never had a name other than the one you give; 2, King of Pippins; 3, not in condition for naming; 4, Kedleston Pippin; 5, Beurré d'Amanlis; 6, Soldat Esperen. (G. B. T.).—Pear, Marie Louise; Apple, Fearn's Pippin. (J. B., Battle).—1, Cox's Orange Pippin; 2, Old English Pearmain; 3, King of Pippins. (G. T. S.).—Beurré Bosc.

Name of Plant (R. C.).—Probably *Crinum brachynema*, Bombay; to make absolutely certain leaves should have been sent.

Covent Garden Market.—October 17th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bush. ...	2	0 to 3	0	Nectarines, doz.	1 6 to 9 0
„ cooking, bush. ...	1	6	5 0	Oranges, case	10 0 15 0
Cobnuts, doz. lb., best ...	4	0	5 0	Peaches, doz. small... ..	1 0 2 0
Damsons, $\frac{1}{2}$ bush.	0	9	2 0	„ doz. good size... ..	6 0 9 0
Figs, green, doz.	0	6	0 10	Pears, crate	3 0 7 0
Grapes, black	0	6	2 6	Pines, St. Michael's, each	3 0 6 0
„ white	1	6	3 0	Plums, $\frac{1}{2}$ bush.	1 0 2 6
Lemons, case	10	0	20 0	„ Californian, case	4 0 6 0
Melons, house, each ...	0	6	1 6	„ common, sieve ...	0 6 1 0
„ water, case	3	6	5 0		

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.	
Artichokes, green, doz. ...	3	0 to 4	0	Leeks, bunch	0 1 ³ to 0 0	
Beans, French, sieve ...	1	0	1 6	Mint, green, doz. bnchs.	2 0	0 0
„ scarlet, bush. ...	0	3	1 0	Mushrooms, lb.	1 3	1 6
Beet. red, doz.	0	6	0 0	Mustard and Cress, pnt.	0 2	0 0
Brussels Sprouts, sieve...	1	6	2 0	Onions, Dutch, bag ...	4 0	4 6
Cabbages, tally	3	0	5 0	Parsley, doz. bnchs. ...	2 0	0 0
Carrots, doz. bnch....	2	0	3 0	Peas, English, bush. ...	5 0	6 0
Cauliflowers, doz.	1	0	2 0	Potatoes, cwt.	3 0	5 0
Celery, bundle	1	0	0 0	Shallots, lb.	0 2	0 3
Cucumbers, doz.	1	6	3 0	Spinach, bush.	2 0	0 0
Endive, score	1	6	0 0	Tomatoes, English, lb. ...	0 2	0 4
Herbs, bunch	0	2	0 0	Turnips, doz.	2 0	3 0
Lettuce, doz.	0	9	0 0	Vegetable Marrows, doz.	0 6	1 0
„ Cos, score	0	6	2 0			

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.				
Asparagus, Fern, bunch	1	6 to 2	0	Lily of the Valley, 12 bun.	6	0 to 12	0		
Asters... ..	3	0	4	0	Maidenhair Fern, dozen				
Carnations, 12 blooms ...	1	0	2	0	bunches	2	0	4	0
Cattleyas, doz.... ..	6	0	12	0	Marguerites, doz. bnchs.	2	0	4	0
Chrysanthemums, dozen					„ Yellow, doz. bnchs.	2	0	4	0
blooms	1	0	3	0	Odontoglossums	3	0	4	0
Eucharis, doz... ..	2	6	4	0	Pelargoniums, doz. bnchs	6	0	8	0
Gardenias, doz.	1	0	2	0	Roses (indoor), doz. ...	2	0	4	0
Geranium, scarlet, doz.					„ Red, doz... ..	1	0	2	0
bunches	4	0	6	0	„ Safrano, doz.	1	6	2	0
Gladiolus, dozen spikes	1	0	2	0	„ Tea, white, doz. ...	1	0	3	0
Lilae, white, bunch, ...	5	0	7	0	„ Yellow, doz. (Perles)	2	0	4	0
Lilium lancifolium album	1	6	2	6	„ English, La France,				
„ „ rubrum	1	6	2	6	doz.	1	0	2	0
„ various	2	0	3	0	Smilax, bunch	2	0	4	0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.				
Acers, doz.	12	0 to 24	0	Foliage plants, var., each	1 0 to 5 0				
Arbor Vitæ, var., doz. ...	6	0	36	0	Geraniums, scarlet, doz.	6 0	10	0	
Aspidistra, doz.	18	0	36	0	„ pink, doz. ...	8	0	10	0
Aspidistra, specimen ...	15	0	20	0	Hydrangeas, white, each	2	6	5	0
Azaleas, various, each ...	2	6	5	0	„ pink, doz. ...	12	0	15	6
Boronias, doz.	20	0	24	0	„ paniculata, each	1	0	3	0
Cannas, doz.	18	0	0	0	Lilium Harrisii, doz. ...	8	0	18	0
Crotons, doz.	18	0	30	0	Lycopodiums, doz. ...	3	0	6	0
Dracæna, var., doz. ...	12	0	30	0	Marguerite Daisy, doz. ...	8	0	10	0
Dracæna, viridis, doz. ...	9	0	18	0	Mignonette, doz. ...	8	0	12	0
Erica, various, doz. ...	8	0	18	0	Myrtles, doz.	6	0	9	0
Euonymus, var., doz. ...	6	0	18	0	Palms, in var., each ...	1	0	15	0
Evergreens, var., doz. ...	4	0	18	0	„ specimens	21	0	63	0
Ferns, var., doz.	4	0	18	0	Roses, doz.	6	0	18	0
„ small, 100	4	0	8	0	Stocks, doz.	8	0	12	0
Ficus elastica, each ...	1	6	7	6					



Profitable Courses.

GREAT changes have come over British agriculture during the last twenty years, and the four-course system, once looked upon as inseparable from it, and any departure from which roused the immediate and dire wrath of the agents of many of our large estates, is now looked upon as more or less obsolete. True, it may still be the rule of some estates, but we venture to think that it is seldom insisted upon, and rightly so, for the British farmer is handicapped enough in other ways, and must have freedom of cultivation if he is to compete successfully with his foreign rivals.

At present prices the four-course system does not produce sufficient to meet expenses; there is no scope for higher farming in it, whereas with other courses and schemes of cropping a great increase in gross production may be shown; and this is good for the community, but, better still, it is good also for the individual farmer, for the more he can produce and the more money passes through his hands, the more likely is he to make some of it stick there, and to reap a good profit for his labour and trouble. As this is the time when the farmer plans his cropping for the coming year, we think a few words on courses will be seasonable.

Farmyard manure is very differently valued by different farmers; some put a high value upon it, whilst others look upon its use with indifference, and upon the expense entailed by carting and spreading it as a necessary evil, but one which they would avoid if possible. No doubt this difference has a close relation to the varieties of soils. Some farms grow such heavy crops of straw that the production of manure from it, if all consumed on the farm, would be far more than could be profitably applied to the land under the old system of cultivation, and therefore on such farms the chief problem to solve is how to obtain a profitable return from, and how best to turn into cash the stores of fertility contained in the muck. Then, again, there are other holdings on which the farmyard manure is not such a great feature, but where large flocks of sheep are grazed on one or two-years seeds, and here the question is how to realise to the best advantage the recuperated condition of the fields which have been thus treated. The cleverest farmers are those who, whilst keeping their land in good heart, are able to keep the purse well lined too. On the chalk wolds of the North and East Ridings of Yorkshire a system of five or six courses has for a long period extensively prevailed, and is now almost universal. Some parts lie too high for Wheat, and on these high wolds the following is the course:—1, Turnips; 2, Barley; 3 and 4, seeds grazed two years; 5, Oats; 6, Barley. On the lower lying lands: 1, Turnips; 2, Barley or Oats; 3 and 4, seeds grazed two years; 5, Wheat; 6, Barley. In some cases a field of seeds is mown Red Clover or Cow Grass and only lies down one year, thus reducing the course to five.

As the high wolds are very suitable for Oats, this crop may be substituted for Barley wherever the latter is likely to find the land in too high a condition for a prospect of a profitable standing crop, and Barley almost always does well as the second of two succeeding white crops. The expensive Turnip crop is reduced to one-sixth of the arable area, and the land is so easy to keep clear of twitch that every sixth year is quite often enough for the cleaning process of fallowing for the roots. The same acreage of grain crops is grown as would prevail under the four-course rotation, whilst they are much more under control to accord with the state of fertility of the soil. The expensive crop is minimised in area, but with heavier tilling and less frequent recurrence may be made to produce an equal bulk of roots, whilst the addition to the sheep pasturage allows of a 30 per cent. increase in the flock without much appreciable extra expenditure, except in the items of cake and corn.

Another class of land, in the cultivation of which still greater changes have occurred, is the red soil lying upon limestone. This land is found in several parts of England and Scotland, and is very suitable for the growth of first-class Potatoes as well as cereal crops.

We will compare two systems as practised by neighbouring farmers, both very much up to date. Both make the Potato crop the hub around which their farming revolves, but whereas one only keeps and breeds ordinary sheep and cattle of good class and character the other owns a large herd of dairy cattle and produces very considerable quantities of milk.

Mr. A.'s course is: 1, Potatoes; 2, Wheat; 3, Barley; 4, Turnips; 5, Barley; 6, seeds followed in the next rotation by Potatoes. Here the manure is practically all used for the Potato crop, a little only being applied to a small acreage of Mangold, and the Turnip crop being grown by the aid of artificials alone. In addition to the manure, artificials to the value of £3 per acre are used for the Potatoes, and the results are uniformly satisfactory. The quality is such that a sale is always assured, and seldom does the price fall below £3 per ton on rails at the nearest station, so that a 7-ton crop is the only thing requisite to a profitable return. Needless to say when the crop reaches 10 tons or the price £6 the balance-sheet must be a very satisfactory one.

Wheat never fails when following Potatoes thus heavily tilled. The plant never fails and the crop is always healthy and productive; the residuals left in the land are well equal to the growth of a level standing crop of Barley, not a heavy one but of average weight and

first-class quality. Swedes or Turnips grown with artificial manure follow, and then another crop of Barley, or occasionally Oats, with which are sown the young seeds for the following year's sheep pasture. Under this system we find the full corn acreage as it would be under four-course treatment, the crop of Potatoes is gained to swell most materially the credit side of the balance-sheet, whilst the only set-back is in a 20 per cent. reduction in the flock. As this thinner running of sheep almost always results in greater healthiness, with losses by disease reduced almost to a minimum, the lessening in the production of mutton and wool is not so great as at first sight we might think.

The expenditure on a farm thus managed is, of course, very much greater than it would be under the old system of grain and meat growing pure and simple, but as the income from Potatoes would be all gain, whereas the corn should be equal to that under the old system, there is evidently much larger room for a profit.

The other farmer we will call Mr. B.; his rotation is—1, Potatoes; 2, Wheat; 3, Seeds; 4, Oats; 5, Barley; 6, Turnips. The areas under corn, Potatoes, and other crops, are respectively the same as on A.'s farm, but the order of cropping is different, whilst Oats are substituted for Barley in one course because Oat straw is required for the dairy cattle, which we have said are such a feature on this farm. Manure is applied for Swedes and, if it can be spared, for Turnips, whilst all the Potato land receives a good dressing. Potatoes do not crop so heavily after Turnips as after seeds, but the quality is better, and there is less damage from wireworm. The two years' successive fallow is of great value in keeping the land clean, and the Clover seeds invariably do well sown amongst Wheat, provided the latter is not too heavy a crop, for small seeds love a stale, *i.e.*, a firm seed-bed. Mr. A. takes his Potatoes from his Clover lea, *plus* all the manure on the farm; Mr. B. takes his from his sheep residuals on Turnip lair, also *plus* his manure, but his Clover lea is reserved wherewith to grow his cereals. Oats do well on lea, and the Barley following should be level and equal in growth, showing good quality, as stubble Barley nearly always does. The two farmers are examples of successful attempts to attain the same objects in similar but widely varying ways. Both are large employers of labour, especially B., but we are confident that both are getting a good and profitable return for it.

Work on the Home Farm.

Since the fine rain of last week we have had a continuance of the fine weather which characterised September. As yet there has been no frost, or at any rate so slight a one as to be imperceptible, and both Swedes and Turnips are swelling into huge crops. It is a great many years since there was such a great crop of roots, and if they keep sound it is difficult to see how they are to be consumed. There will be no necessity for keeping cattle out at grass longer than is desirable when there is such a big supply of winter keep.

The weather is so summer-like now that young cattle such as reared calves and others under twelve months are doing as well as possible out at grass, but the first feeling of chilliness that suggests the use of a greatcoat must also warn us to bring up the young things at night to a little cake and this season's excellent hay. As soon as the labour supply will allow a few Turnips pulped and mixed with well cut Barley straw, and dusted over with barleymeal, will be added to the dietary, the ration being increased as the animals clean it up, and the proportion of Turnip to straw may also be increased as they advance in age.

Threshing shows straw to be scarcer even than grain, and as old stocks had been much drawn on owing to the Turnip failure last winter, a check will have to be kept on the too free use of the straw stack and every possible use made of the roots which we are fortunate enough to have in such plenty. Milk cows are still running out night and day, and they keep up the milk supply well. Grass is good for the time of year, but cotton cake must be supplied, 5 to 7 lbs. per cow per diem if we mean to keep them in good milking condition.

Winter Beans are now little grown, but we see a field being put in here and there. In the old days they were dibbled by hand in the furrows after the ploughs, now they are drilled with a press drill, or sown broadcast on the press rows. The latter method will do if we have a first-class sower, but such men are now so very scarce as to be almost unobtainable.

Strong land farmers may be congratulated on having such a fine time for Wheat sowing. The seed is indeed going in grandly and must make a good start. In this Potato district Wheat is sown after the tuber. The end of this month is soon enough to sow Wheat in this course, so Potato lifting is still the order of things. Diseased tubers are plentiful. Elephants, which should have been marketed earlier, are very bad and useless, even as pig food. Later sorts are fairly satisfactory as to bulk, but a great many Potatoes are touched so slightly as to be hardly discernible. Much depends on how they stand the sweating process of the next month. The pies must be kept open longer than usual at the top or disaster must follow.

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**Journal of Horticulture.**

THURSDAY, OCTOBER 25, 1900.

Rose Analysis, 1894-1900.

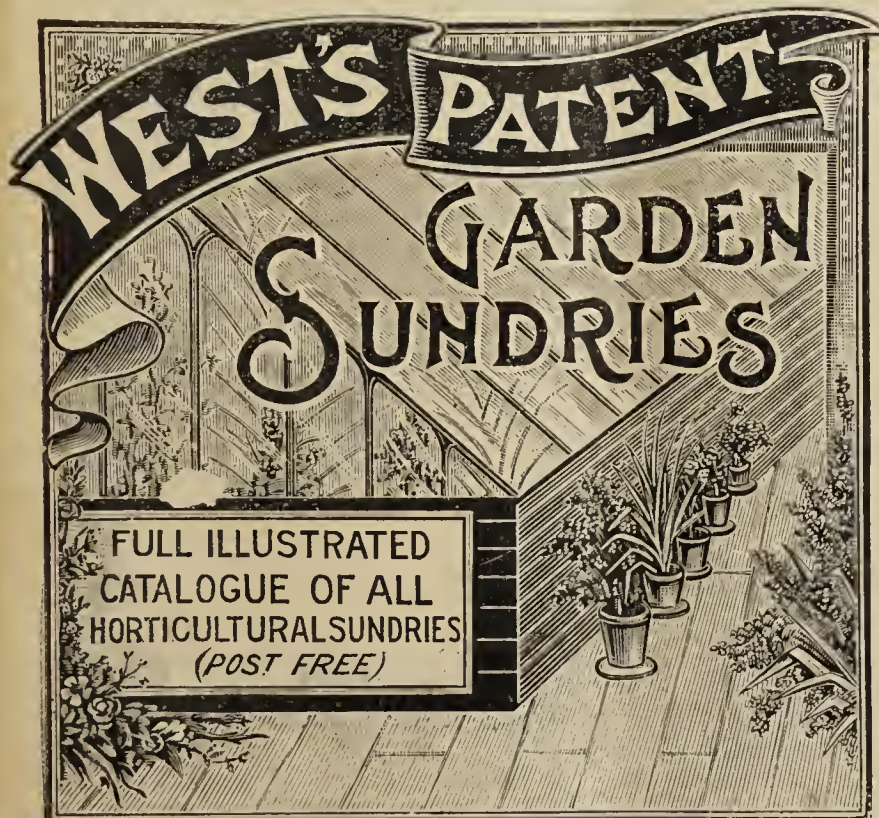
THIS is the fifteenth Rose analysis that I have contributed to the *Journal of Horticulture*, so that there are now complete records available for all the exhibition

Roses staged in the prizewinning stands at each of the last fifteen metropolitan exhibitions of the National Rose Society. For the purposes of comparison and for easy reference these records are arranged in tabular form, and it is interesting to trace in them from time to time to what extent certain varieties advance or decline in favour as time goes on. They also show how the best of the new introductions have more or less rapidly come to the front, supplanting some of their older brethren at one time regarded as indispensable to any exhibitor's collection; also how, on the other hand, some of our oldest favourites still valiantly maintain year after year their former positions, while others continue to dispute the ground they had gained inch by inch with the new comers. In the present analysis, however, only the records for the last seven years are taken into consideration, as it has been found that a period of seven or eight years yields, as a rule, the most satisfactory results in the case of the established sorts, which still form more than three-fourths of the varieties mentioned in the tables.

The Rose season of the present year again proved rather a late one, but as the date of "the National" was also one of the latest possible under existing arrangements the later flowering Roses were better represented than would otherwise have been the case, while those which flower unusually early in the season do not appear to have been as much favoured as they at one time promised to be.

Would that Mr. Henry Bennett were once more among us to witness the sustained and remarkable success of that grand Hybrid Perpetual, Mrs. John Laing. It was sent out by him thirteen years ago, and from the time it was first in general

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cultivation has taken the lead of all the other Hybrid Perpetuals and Hybrid Teas. Moreover, its position has never once through all those years been seriously in danger. At each of the last two Crystal Palace exhibitions it was to be seen in no fewer than fifty-five different prize stands, and in fifty-six stands in 1897. The nearest approach to this record is that of another H.P.—Ulrich Brunner—which appeared this year in fifty prize stands. Other standard kinds which were exceptionally well shown this season were Suzanne Marie Rodocanachi

(never before quite as good), Gustave Piganeau, François Michelin, White Lady, and Marie Finger. On the other hand, Madame G. Luizet, Horace Vernet, Earl of Dufferin, Charles Lefebvre, Prince Arthur, and Victor Hugo have seldom, if ever, been as sparsely represented. It will thus be seen that the past Rose season was very unfavourable to several of the dark crimson H.P.'s. It was not, however, so disastrous as last year to the crimson varieties generally.

HYBRID PERPETUALS AND HYBRID TEAS.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1900 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	48.0	55	Mrs. Jona Lang.....	1887	Bennett	Rosy pink
2	40.0	50	Ulrich Brunner	1881	Levet	Cherry red
3	36.3	41	Mrs. W. J. Grant (H.T.)	1895	A. Dickson & Sons ...	Bright rosy pink
4	34.5	36	Mrs. R. G. Sharman-Crawford.....	1894	A. Dickson & Sons ...	Clear rosy pink
5	32.8	37	Caroline Testout (H.T.).....	1890	Pernet & Ducher	Light salmon pink
6	32.1	31	A. K. Williams	1877	Schwartz	Bright carmine red
7	31.0	36	Marquise Litta (H.T.)	1893	Pernet & Ducher	Carmine rose, brighter centre
8	30.4	28	Her Majesty	1885	Bennett	Pale rose
9	29.8	29	Kaiserin Augusta Victoria (H.T.)	1891	Lambert & Reiter.....	Cream, shaded lemon
10	28.7	28	La France (H.T.)	1867	Guillot.....	Silvery rose, shaded lilac
11	28.6	35	Suzanne M. Rodocanachi	1883	Lévêque	Glowing rose
12	27.3	23	Captain Hayward	1893	Bennett	Scarlet crimson
13	26.7	30	Gustave Piganeau	1889	Pernet & Ducher	Shaded carmine
14	25.4	21	Marie Baumann	1863	Baumann	Soft carmine red
15	24.9	19	Madame Gabriel Luizet.....	1877	Liabaud	Light silvery pink
16	22.1	23	Alfred Colomb.....	1865	Lacharme	Bright carmine red
17	21.1	16	Horace Vernet.....	1866	Guillot.....	Scarlet crimson, dark shaded
18	20.8	16	Marchioness of Londonderry	1893	A. Dickson & Sons ...	Ivory white
19	20.0	14	Helen Keller	1895	A. Dickson & Sons ...	Rosy cerise
20	18.1	5	Earl of Dufferin	1887	A. Dickson & Sons ...	Dark crimson, shaded maroon
21	17.9	14	Margaret Dickson	1891	A. Dickson & Sons ...	Ivory white
22	17.7	23	François Michelin	1871	Levet	Deep rose, reverse silvery
*23	17.0	17	Bessie Brown (H.T.) ..	1899	A. Dickson & Sons ...	Creamy white
24	16.9	8	Charles Lefebvre	1861	Lacharme	Purplish crimson
25	16.7	11	Prince Arthur	1875	B. R. Cant	Bright crimson
26	16.4	14	Dupuy Jamain	1868	Jamain	Bright cerise
27	16.3	11	Merveille de Lyon	1882	Pernet	White
28	16.0	15	Tom Wood	1896	A. Dickson & Sons ...	Brownish red
29	15.7	14	Etienne Levet.....	1871	Levet	Carmine rose
30	15.0	19	White Lady (H.T.)	1890	W. Paul & Son	Creamy white
31	13.9	7	Victor Hugo	1884	Schwartz.....	Dazzling crimson, shaded
32	13.8	12	Marchioness of Downshire.....	1894	A. Dickson & Sons ...	Light pink, shaded rose
33	13.6	8	Fisher Holmes.....	1865	E. Verdier	Shaded crimson scarlet
34	13.5	8	Marchioness of Dufferin.....	1891	A. Dickson & Sons ...	Pink
35	13.3	14	Duke of Wellington	1864	Granger	Bright shaded crimson
36	13.1	10	Baroness Rothschild	1867	Pernet	Light pink
37	13.0	13	Countess of Caledon (H.T.)	1897	A. Dickson & Sons ...	Carmine rose
38	12.7	10	Louis Van Houtte	1869	Lacharme	Deep crimson, shaded maroon
39	12.4	12	Lady Mary Fitzwilliam (H.T.) ..	1882	Bennett	Rosy flesh
*40	12.0	12	Killarney (H.T.)	1898	A. Dickson & Sons ...	Pale pink, shaded white
41	11.9	7	Comte de Raimbaud	1868	Roland	Clear crimson
42	11.4	7	Heinrich Schultheis	1882	Bennett	Pinkish rose
43	11.3	6	Général Jacqueminot	1853	Roussel	Bright scarlet crimson
44	11.1	10	Duke of Edinburgh	1868	Paul & Son.....	Scarlet
45	10.7	11	Marie Verdier	1877	E. Verdier	Pure rose
46	10.1	6	Dr. Andry	1864	E. Verdier	Bright crimson
47	9.9	6	Xavier Olibo	1864	Lacharme	Dark velvety crimson
48	9.8	8	E. Y. Teas	1874	E. Verdier	Bright red
49	9.3	7	Duchesse de Morny	1863	E. Verdier	Silvery rose
50	9.0	6	Jeannie Dickson	1890	A. Dickson & Sons ...	Soft silvery rose
51	8.7	6	Duchess of Bedford	1879	Postans	Light scarlet crimson
52	8.4	6	Ferdinand de Lesseps	1869	E. Verdier	Shaded crimson
53	8.3	4	Abel Carrière	1875	E. Verdier	Crimson maroon, shaded purple
54	8.1	4	Camille Bernardin	1865	Gautreau	Light crimson
55	8.0	8	Madame Eugène Verdier ..	1878	E. Verdier	Silvery rose
56	7.7	7	Beauty of Waltham	1862	W. Paul & Son	Rosy crimson
57	7.6	7	Le Havre	1871	Eude	Vermilion red
58	7.3	3	Star of Waltham	1875	W. Paul & Son	Carmine, shaded violet
59	7.0	6	Duke of Teck	1880	Paul & Son.....	Light crimson scarlet
60	6.3	10	Marie Finger ..	1873	Raimbaud	Light salmon rose
61	6.2	4	Duke of Fife	1892	Cocker.....	Deep crimson scarlet
62	6.1	3	Charles Darwin	1879	Laxton	Brownish crimson
63	6.0	2	Pride of Waltham	1881	W. Paul & Son	Salmon pink, shaded
64	5.9	2	Comtesse d'Oxford.....	1869	Guillot	Carmine violet
64	5.9	1	Reynolds Hole.....	1873	Paul & Son.....	Deep scarlet maroon
66	5.3	1	Marie Rady	1865	Fontaine	Brilliant red

* New varieties, whose positions are dependent on their records for the 1900 show only.

Coming now to the new Roses in this section, those which are five or less years old, we find that they are six in number. Of the two which were distributed in 1895, Mrs. W. J. Grant, that beautiful free-flowering rosy pink H.T., already occupies the third place on the list. Truly a marvellous performance for so young a Rose. Helen Keller (No. 19) of the same year remains in a similar place to that which it occupied in the last analysis. The next four years have each one representative. Tom Wood (No. 28) the sole representative of 1896 has not improved on the position it gained in the preceding year, and the same may be said of Countess of Caledon (1897) which now stands at No. 37. The 1898 variety, Killarney, is a most dainty Rose with its pointed centre, sturdy petals, and delicate pale pink colouring, and makes its *débat* at No. 40. Bessie Brown, the creamy white representative of 1899, is an undoubted acquisition. It has already, on its first appearance, taken up a good position in the table at No. 23, and is likely to appear shortly among the leading twelve varieties. When more generally grown it will, no doubt, be warmly welcomed as a most valuable addition to the white, or nearly white, Roses in this section.

There is one very remarkable thing in connection with the six new Roses just mentioned, and that is, that all, without exception, were raised in the British Isles, and by a single firm, Messrs. A. Dickson & Sons of Newtownards, Ireland.

One object of these analyses is to test, from time to time, the progress of the Rose itself, and to see in what direction advances are being made. If we compare, for instance, the table of H.P.'s and H.T.'s for 1895 with the present one, we shall see that the progress made in those five years has been considerable, and also the large part played in those advances by that comparatively new section, the Hybrid Teas. Taking the two lists as a whole there will be found in this year's analysis the following ten varieties, which were not in general cultivation, even by exhibitors, five years ago—viz., Mrs. W. J. Grant, Marquise Litta, K. A. Victoria, Helen

Keller, Bessie Brown, Tom Wood, White Lady, Marchioness of Downshire, Countess of Caledon, and Killarney, while Mrs. R. G. Sharman Crawford, Marchioness of Londonderry, and Captain Hayward were then so little grown, that they do not even appear among the first fifty varieties in the 1895 table. Arranged roughly, according to their colours, it will be seen that in the short space of five years we have already in cultivation the following additions to our stock of H.P.'s and H.T.'s. *Whites*.—K. A. Victoria, Marchioness of Londonderry, Bessie Brown, and White Lady. *Pinks*.—Mrs. R. G. Sharman Crawford, Caroline Testout, Marchioness of Downshire, and Killarney. *Medium Reds*.—Marquise Litta, Helen Keller, Tom Wood, and Countess of Caledon. *Crimson*.—Captain Hayward. Of the above, seven are Hybrid Teas and the remaining five Hybrid Perpetuals. There are as yet only ten Hybrid Teas on the table, but of these five have already secured places among the leading twelve varieties, whereas five years ago the only H.T. to be met with in the first thirty sorts was La France.

If against the foregoing lists of the newer Roses we place the varieties which have disappeared from the table altogether we shall be better able to judge as to whether any real progress has been made. The following, then, are our losses during the past five years regarded from an exhibitor's point of view:—*Whites*.—Violette Bouyer. *Pinks*.—Marquise de Castellane, Captain Christy, Duchesse de Vallombrosa, Viscountess Folkestone, Monsieur Noman, and Marguerite de St. Amand. *Medium reds*.—Countess of Rosebery, Madame I. Periere, and Victor Verdier. *Crimsons*.—Madame V. Verdier, Auguste Rigotard, Duke of Connaught, Dr. Sewell, and Magna Charta. *Darks*.—Prince C. de Rohan, and Sir Rowland Hill. Now that we have so many superior varieties to select from it appears somewhat strange that we should ever have prized as highly as we did many of these old favourites.

The Bride still manages to retain the premier position it secured for the first time last year in the table of Teas and Noisettes, but is

TEAS AND NOISETTES.

Position in Present Analysis.	Average Number of Times Shown.	No. of Times Shown in 1900 in True Relative Proportion to the Average.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	39.6	38	The Bride	1885	May	White, tinged lemon
2	39.3	41	Catherine Mermet	1869	Guillot	Light rosy flesh
3	33.3	40	Maman Cochet	1893	Cochet	Deep flesh, suffused light rose
4	32.9	36	Comtesse de Nadaillac	1871	Guillot	Peach, shaded apricot
5	31.9	33	Innocente Pirola	1878	Madame Ducher	Creamy white
6	29.9	22	Souvenir de S. A. Prince	1889	Prince	Pure white
7	28.1	19	Madame Cusin	1881	Guillot	Violet rose, yellow base
8	27.4	33	Madame Hoste	1887	Guillot	Pale lemon yellow
9	25.9	33	Souvenir d'un Ami	1846	Belot-Defougère	Pale rose
10	25.0	37	Bridesmaid	1893	May	Bright pink
11	23.7	21	Madame de Watteville	1883	Guillot	Cream, bordered rose
12	23.4	33	Souvenir d'Elise Vardon	1854	Marest	Cream, tinted rose
13	21.7	9	Marie Van Houtte	1871	Ducher	Lemon yellow, edged rose
14	20.8	27	Medea	1891	W. Paul & Son	Lemon yellow
15	20.6	19	Ernest Metz	1888	Guillot	Salmon, tinted rose
16	20.1	10	Honourable Edith Gifford	1882	Guillot	White, centre flesh
17	20.0	12	Maréchal Niel (N.)	1864	Pradel	Deep bright golden yellow
17	20.0	24	Muriel Grahame	1896	A. Dickson & Sons	Pale cream, flushed rose
19	17.3	16	Niphotos	1844	Bougère	White
20	15.3	7	Caroline Kuster (N.)	1872	Pernet	Lemon yellow
21	14.3	8	Anna Olivier	1872	Ducher	Pale buff, flushed
22	14.1	7	Ethel Brownlow	1887	A. Dickson & Sons	Rosy flesh, shaded yellow
*23	13.0	13	Mrs. Edward Mawley	1899	A. Dickson & Sons	Pink, tinted carmine
23	13.0	9	Princess of Wales	1882	Bennett	Rosy yellow
*23	13.0	13	White Maman Cochet	1897	Cook	White, tinged lemon
26	12.5	12	Golden Gate	1892	Dingee & Conard	Creamy white, tinted rose
27	12.4	21	Cleopatra	1889	Bennett	Creamy flesh, shaded rose
28	11.3	1	Francisca Krüger	1879	Nabonnand	Coppery yellow, shaded peach
29	11.1	2	Jean Ducher	1874	Madame Ducher	Salmon yellow, shaded peach
30	9.9	6	Rubens	1859	Robért	White, shaded creamy rose
31	8.7	3	Madame Bravy	1848	Guillot	White, flushed pink
32	5.9	1	Etoile de Lyon	1881	Guillot	Deep lemon

* New varieties, whose positions are dependent on their records for the 1900 show only.

as yet very slightly in advance of the variety from which it sported in 1885—Catherine Mermet. That comparatively new Tea, Maman Cochet, rises from the fifth to the third place in the list since last year. Other sorts which were favoured by the season were Comtesse de Nadaillac, Madame Hoste, Souvenir d'un Ami, Souvenir d'Elise Vardon, Medea, and Cleopatra. On the other hand, among the varieties which were but very sparsely represented, as compared with their usual form, may be mentioned Madame Cusin, Marie Van Houtte, Hon. Edith Gifford, and Maréchal Niel.

There are only three new varieties on the table of Teas and Noisettes—varieties which are six or fewer years old, but all three may be regarded as of unusual merit. The first we come to is Muriel Grahame, a cream coloured sport from Catherine Mermet, which was sent out in 1896. This refined and charming Rose has risen two places in the list since last year, and now stands at No. 17. The next, White Maman Cochet, was distributed in 1897, and on its first appearance in the analysis secures a place at No. 23. In regard to this very promising new Tea, it may be mentioned as rather a curious coincidence that whereas Maman Cochet presented us with this fine white sport only four years after it was itself sent out, we had to wait sixteen years for The Bride, the first white sport from Catherine Mermet. It is also rather remarkable that both of these white sports should have come to us from America. The third new Tea, and the most recent of the set, is Mrs. Edward Mawley, which although only sent out last year, already takes up its position at No. 23, having been staged this year in the same number of stands as White Maman Cochet.

If we enquire what progress has taken place in recent years in this section we have only to compare the table of five years ago with the present one in order to see that a very satisfactory advance has been made. It must, however, be borne in mind that the list is only half the length of that representing the Hybrid Perpetuals and Hybrid Teas, and that for some reason the upward movement of the newer introductions is here more gradual than in the other table. The gains since 1895 have been as follows, that is to say, none of the varieties named are to be found in the analysis for that year:—Bridesmaid, Medea, Muriel Grahame, Mrs. Edward Mawley, White Maman Cochet, and Golden Gate. On the other hand the following Teas which appeared in the earlier analysis fail to find a footing in the present one—viz., Corinna, Devoniensis, Souvenir de Paul Neyron, La Boule d'Or, Comtesse de Panisse, and Jules Finger.

Another year I shall hope to be able to give a brief list from an exhibitor's point of view of that interesting and popular section, the "garden" or decorative Roses—varieties the flowers of which are either not sufficiently large or well formed to entitle them to be staged in the classes for the so-called exhibition Roses. The "garden" Roses exhibited three or more times at the Crystal Palace this year, and arranged according to the number of times they were set up in prize stands, were the following:—Gustave Regis, Marquise de Salisbury, Rosa Macrantha, Madame Pernet Ducher, Rosa Moschata alba, W. A. Richardson, Brenda, Camoens, Madame C. Guinoisseau, Reine Olga de Wurtemberg, Anne of Geierstein, Bardou Job, Laurette Messimy, Meg Merrilies, Rugosa alba, Bennett's Seedling, Claire Jacquier, Crested Moss, Lady Penzance, L'Idéal, Ma Capucine, Madame Anna Maria de Montravel, Madame Falcot, Mignonette, Paul's Carmine Pillar, Paul's Single White, Perle d'Or, Rosa Andersoni, and Rosa multiflora grandiflora.

I have again to thank those good friends who year after year on a busy show day assist me in taking down the names of the Roses in the prize stands and so render these analyses possible.

The Newer Roses Audit.

This appendix to the analysis has been introduced in order that the varieties of recent introduction which it is impossible to place accurately in the tables owing to their limited records, and to the disturbing influence of a single particularly favourable or unfavourable season upon those records. Added to which new Roses can be included in this audit whose performances are not yet sufficiently good to allow of them to appear at all in the usual tables. Each of the following voters was requested to place the twelve H.P.'s and H.T.'s in the list in their order of merit as exhibition Roses, and to deal in the same way with the Teas and Noisettes. In calculating the number of votes it should be understood that a first place vote in the case of the former list is counted as twelve votes, a second as eleven votes, and so on. But in the case of the Teas a first place vote is only reckoned as six votes, a second as five votes, &c., as there are only six candidates in this list as compared with twelve in the other one:—

Amateurs.—Mr. J. Bateman, Mr. W. Boyes, Rev. H. B. Biron, Rev. F. R. Burnside, Rev. A. Foster-Melliar, Mr. C. J. Grahame, Mr. Conway Jones, Mr. H. V. Machin, Mr. O. G. Orpen, Rev. J. H. Pemberton, and Mr. A. Slaughter.

Nurserymen.—Messrs. G. Burch, J. Burrell, C. E. Cant, Frank Cant, A. Dickson, R. Harkness, W. J. Jefferies, J. R. Mattock, H. Merryweather, jun., A. Piper, A. E. Prince, W. D. Prior, and A. Turner.

Hybrid Perpetuals and Hybrid Teas.

Position in Audit.		Total No. of Votes.	Votes by Amateurs.	Votes by Nurserymen.
1	Bessie Brown (1899) (H.T.)	286	120	166
2	Ulster (1899)	225	100	125
3	Tom Wood (1896)	182	64	118
4	Mrs. Cocker (1899)	169	88	81
5	Killarney (1898) (H.T.)	157	59	98
6	Madame Cadeau Ramey (1896) (H.T.)	156	58	98
7	Countess of Caledon (1897) (H.T.)	152	63	89
8	Laurence Allen (1896)	106	38	68
8	Mrs. Frank Cant (1897)	100	45	55
10	Mrs. F. W. Sanford (1898)	86	47	39
11	Rev. A. Cheales (1896)	58	18	40
12	Shandon (1899) (H.T.)	49	18	31

1	White Maman Cochet (1897)	132	59	73
2	Muriel Grahame (1896)	127	55	72
3	Mrs. E. Mawley (1899)	118	53	65
4	Sylph (1895)	53	26	27
5	Mrs. Pierpont Morgan (1896)	44	19	25
6	Empress Alexandra of Russia (1897)	32	13	19

Roses for General Cultivation.

I set much value on these lists, which have been drawn up with great care, and, as far as possible, brought up to date. They are intended to give the cream of the Roses now in cultivation in the different sections to which they belong, and never before in the history of the Rose has there been such a wealth of beautiful varieties to select from. In making their selections your readers should bear in mind that all the established sorts named in each list have been placed in what I regard as their order of merit for the purposes for which these lists have been compiled. So that, however limited their requirements may be, they may readily choose the best varieties. Those marked with an asterisk are either quite new or of comparatively recent introduction. I should like to draw particular attention to the delightful varieties mentioned under the headings of "Hybrid Teas," "Teas and Noisettes," and "Chinas" in the list of "Garden" or Decorative Roses, many of them as yet but little known.

EXHIBITION ROSES — HYBRID PERPETUALS.—*Light coloured varieties:* Mrs. John Laing, Mrs. R. G. Sharman Crawford, *Mrs. Cocker, Madame Gabriel Luizet, Marie Finger, Merveille de Lyon, and Killarney. *Medium reds:* Ulrich Brunner, Dupuy Jamain, Suzanne M. Rodocanachi, Helen Keller, Tom Wood, Comtesse d'Oxford, Heinrich Schultheis. *Reds:* Fisher Holmes, Général Jacqueminot, Marie Baumann, A. K. Williams, Alfred Colomb, Ferdinand de Lesseps, Captain Hayward, Dr. Andry, Duke of Edinburgh, and Victor Hugo. *Dark varieties:* Prince Arthur, Charles Lefebvre, Duke of Wellington, and Prince Camille de Rohan. **HYBRID TEAS.**—La France, Caroline Testout, Viscountess Folkestone, Marquise Litta, Mrs. W. J. Grant, Captain Christy, Kaiserin Augusta Victoria, and *Bessie Brown. **TEAS AND NOISSETTES.**—Marie Van Houtte, Souvenir de S. A. Prince, Maman Cochet, *White Maman Cochet, *Mrs. E. Mawley, Caroline Kuster, Souvenir d'un Ami, Madame Hoste, Hon. Edith Gifford, Innocente Pirola, Anna Ollivier, and Rubens.

GARDEN OR DECORATIVE ROSES.—*Summer Flowering.*—*Provence:*—Common or Cabbage. *Moss:* Common or Old and Blanche Moreau. *Damask:* Rosa Mundi. *Austrian Brier:* Austrian Copper, Austrian Yellow, and Harrisoni. *Hybrid Sweet Briers:* Janet's Pride, Lady Penzance, Jeannie Deans, and Flora McIvor. *Climbing Roses:* Turner's Crimson Rambler, Bennett's Seedling, Félicité Perpétue, Claire Jacquier, Paul's Carmine Pillar, The Garland, Rosa multiflora grandiflora. **AUTUMN FLOWERING.**—*Hybrid Teas:* Gustave Regis, Madame Abel Chatenay, Antoine Rivoire, *Madame Jules Grolez, *Gruss an Teplitz, Papa Gontier, *Grand Duc de Luxembourg, Augustine Guinoisseau, Grace Darling, Bardou Job. *Bourbon:* Souvenir de la Malmaison. *China:* Old Blush or Common Monthly, Laurette Messimy, Madame Eugène Resal, Queen Mab. *Teas and Noisettes:* L'Idéal, Madame Lambard, G. Nabonnand, Beauté Inconstante, *Souvenir de Catherine Guillot. *Perpetual Scotch:* Stanwell Perpetual. *Polyantha:* Madame Anna Maria de Montravel, Gloire des Polyantha, Perle d'Or, and Cecile Brunner. *Japanese:* Alba, Madame G. Bruant, and Blanc Double de Coubert. *Climbing:* Gloire de Dijon, W. A. Richardson, Longworth Rambler, Madame A. Carrière, Rêve d'Or, Reine Olga de Wurtemberg, Madame Pierre Cochet, Bouquet d'Or, Alister Stella Gray, Monsieur Desir, Aimée Vibert, and *Wichuriana (trailing).—E. M., *Berkhamsted*.

*Sopbro-Cattleya eximea.*

A cross between the glowing *Sophranitis grandiflora* and *Cattleya Bowringiana* one would naturally expect to be a finely coloured and showy hybrid, and considerable interest is always taken in this (fig. 103) when exhibited as it was by Messrs. Veitch at a recent Drill Hall meeting. It is by no means the most recent of Mr. Seden's raising, the beautiful S.-C. Queen Empress of last season being a splendid addition to a class now becoming numerous. Anyway, this able hybridist continues his good work.

Epidendrum sceptrum.

Doubtless many others beside myself were glad to rub up their acquaintance with this fine old Orchid at the Drill Hall on October 9th, when a couple of fine cut spikes were shown by Sir Trevor Lawrence. It has not been exhibited at all frequently of late years, and is by no means a common plant in collections, though it has been known for upwards of half a century. In the early forties it was discovered by the late Mons. Linden, growing, it is said, upon dead and dying trees in New Grenada.

The species is a very fine one for autumn decoration, the long loose spikes of flowers being graceful and ornamental in a cool intermediate house. The plant is pseudobulbous, and the spikes appear at the apex of the growth, between the leaves. The blossoms are variable in size and colouring, the best forms being about $1\frac{1}{2}$ inch across, deep yellow, with spots of dark vinous purple. The roots are not particularly vigorous, and may be confined to pots of medium size, these being well drained and filled with a free open compost of peat, moss, and crocks or charcoal. During the active growing season an ample supply of water is necessary at the roots and in the atmosphere, but after a fair amount of ripening in autumn the plants should be allowed cooler and drier winter quarters.—H. R. R.



FIG. 103.—SOPHRO-CATTELEYA EXIMEA.

Hardy Flowers in October.

THERE is deep pathos in these autumn days, when we see before us the withered flowers and fading leaves, which in the height of summer or in early autumn's golden days gave us delight. It is small consolation to us to do what the poet speaks of when he says:—

"And if one sits on some pensive bole
With curtained eyes, when every wind is still,
The falling leaves in grave October's bowers
Sound just like April's gaily pattering showers."

We feel too strongly that we are parting quickly from our flowers to draw much comfort from such illusions as these.

Weather conditions have added to the natural gloom of the time.

Almost unceasing rain for days at a time robbed us of many flowers which would otherwise have been longer with us. The Meadow Saffron or the Crocus loves not a deluge, and revels only in the sunlight or the calm weather. Thus we have not enjoyed to their full these flowers, which in late autumn are wont to bring us pleasure with their blossoms. Some, more sturdy than others, withstood rain and wind better than many, but even these did not show themselves to advantage, as they refuse to open when the clouds draw a veil over the sun, and pour rain incessantly upon the flowers. But for this we would have had more pleasure than usual from these flowers. Among Meadow Saffrons we have had several forms of *Colchicum speciosum*, and a number of others of greater or lesser size and beauty. One never tires of such flowers as *Colchicum Bornmuelleri*, *C. Sibthorpi*, or the double forms of *C. autumnale*, besides the species less known, such as *hololophum*, *Kochi*, or *Bertoloni*. Even more delightful are the Crocuses, with their more elegant flowers and more pleasing colours. As one's collection grows more complete, so does one grow more enamoured of these exquisite flowers. Were these autumnal-flowering species better known, more of our gardens would be of greater interest to those who own or visit them. None pleases me more than the richly coloured and beautifully formed *C. iridiflorus*, with its deep and pale lilac flowers. The brilliant *C. speciosus* is charming too, and we

take delight in the pearly-blue flowers of *C. pulchellus*, as well as in the varieties of *C. asturicus*, *C. hadriaticus*, or *C. cancellatus*. All these and several more are charming when a sunny day comes, and the rift in the cloud grows wide enough to allow the rays to reach the flowers.

Could we but have a yellow companion to these flowers we think we should be happy, and could wish for nothing more at the time. It is a pity that so many of us can do so little with the *Sternbergias*, whose golden blooms would give us the colour we want beside the Crocuses and *Colchicums*. *Sternbergia macrantha* is a glorious thing, and those who can flower it as a permanent occupant of their gardens will

possess a plant of the highest worth. I believe that the old *S. angustifolia* is the freest bloomer of all these flowers, and that it does especially well in a chalky or limestone soil.

Trailing up my little study wall is *Tropæolum tuberosum*, yet in bloom, though a night or two ago the ground was covered with hoar frost, and the higher hills in sight were white with snow. It is not, nevertheless, a really hardy plant, and its tubers need to be lifted and stored beyond the reach of frost. For all that it is a pretty and distinct plant, which is worth what care it needs. Unfortunately in many gardens it grows to leaf, and produces none of its pretty scarlet and yellow flowers. Generally in this quarter it is flowerless, and I am not quite sure whether my success in blooming it this year is due to the treatment it received, or to my tubers coming from a good and free-flowering stock. Whatever the cause, it has bloomed freely planted out early in May in a poor, hard, gravelly place in full sun. The tubers will be ready to lift about the end of this month, and will be stored in dry sand. In themselves they are interesting because of their form, and the colour some individual tubers give.

Even the perennial Asters, enduring as they are, have not been proof against the weather. Wind and rain do not improve their beauty, and really cut it short. They do not, as a rule, object to a little frost, but heavy rains discolour them and make their petals less bright. Yet one feels how worthy they are of the space they need, and how liberally they repay one with their hosts of flowers, either to brighten the garden or for cutting. Even yet, though a number are

past, enough remain to give cheeriness to the garden and flowers for the house. I must confess to a liking for the small-flowered forms, such as Coombe-Fishacre, cordifolius, and its varieties, difusus, and others of a similar style. F. W. Barbridge, puniceus pulcherrimus, John Wood, versicolor, turbinellus, and the novæ-angliæ varieties are all of special value still. The first is getting over, but the others give good flowers even now. Of course those of the type of *Aster amellus* are indispensable.

It has been a grand season for the hardy *Hydrangeas*, which are quite hardy with us by the sea. With their great heads of flower they are truly grand, though with us they do not reach the height they attain in some parts of Ireland, where, with the *Fuchsias*, they are most delightful in their own way. Hardy *Fuchsias* do well here also, and one sees the old *Riccantoni*, *coccinea*, and a few others. A bright one here, which came to me from St. Albans, is of the type of the French hardy hybrid *Fuchsia Telegraphe*. A bonny little rock garden *Fuchsia* is *Bouquet*, of which *F. myrtifolia* is one of the parents. Visitors seem much surprised at the neatness of *F. pumila*, which still shows its bright flowers on one of the rockeries.

There are many survivals of the earlier flowers. The Monthly *Roses* give, as is their wont, flowers still, a few others joining them in carrying aloft the banner of the Rose. Madame Isaac Pereire has gone up to the top of its pillar to exhibit a handsome bloom, which seems to look contemptuously upon the smaller flowers of Longworth Rambler.

There yet bloom the gay *Zauschneria californica*, the more showy *Phygelius capensis*, some *Violas*, some *Sunflowers*, though their gold is not so bright as in earlier days. We could pluck many other lingering flowers for this autumn posy of ours. We could mingle with them leaves of many hues, hardly less beautiful than those petals which are yet so gay. Truly the passing of the flowers is beautiful in its decay; full of a pleasure deeply touched with melancholy; yet filled with chastened happiness, because we have our memories of a more golden time, memories ineffaceable even by the shortened days. —S. ARNOTT.

Certificated Plants.*

The Royal Horticultural Society's Committees and Their Work.

THE appearance, in the form of a bulky pamphlet, of the list of plants certificated by the society from 1859 to 1899—a period of forty years—affords an excellent opportunity for something like a survey of the progress made during that period. To some of us the appearance of the lists revives memories of long ago, and recalls men and circumstances practically unknown to very many of the present generation. The development of horticulture in its widest significance during the past fifty years has been little less than stupendous. Men have arisen, made their mark, completed their life work, and passed away; some succeeded in inscribing their names in the annals of horticulture, others doing worthy work less obtrusively are quite forgotten, or remembered only by the decreasing few remaining, who were contemporaries of them. What a roll of honoured names of the departed it is possible to compile! There have been times of floricultural surprises, when an addition of unexpected value was made to our cultivated plants. It is quite certain that the period between 1859 and 1899 records succeeding years of steady work by the Royal Horticultural Society—not without some mistakes having been committed, but yet with the advantage of being able to credit itself with an enormous balance of excellent, practical, and even enduring work.

A preface having an historical value has been contributed by the secretary, the Rev. W. Wilks. From that we learn that "the Fruit and Vegetable Committee is the senior body." Previous to its formation, the British Pomological Society performed the function of taking cognizance of new fruits. This society was formed in July, 1854, as a response to a suggestion thrown out by the veteran Mr. Thomas Rivers in the pages of "The Florist." Its first president was Sir Joseph Paxton; its treasurer Mr. John Spencer, then of Bowood, Calne, Wilts; its secretaries were Mr. Spencer and the late Dr. Robert Hogg. There lies before me as I write a list of its first council and members; and of the latter, fifty-five in number, I think not one remains amongst us. It would appear that the Royal Horticultural Society formed a Vegetable Committee in 1858, the purpose of its existence being to collect and test at Chiswick, from seeds, every kind of vegetable then cultivated. It is more than probable that at the end of 1859 this Vegetable Committee absorbed the British Pomological Society, and became known henceforward as the Fruit and Vegetable Committee of the R.H.S.

In the preface we also learn that a Floral Committee was formed in June, 1859, and this in its turn absorbed the National Floricultural Society. This society was formed in March, 1851, and held its first meeting in June of that year in the old rooms of the R.H.S. at

21, Regent Street. Its formation was the outcome of a want keenly felt of a superior tribunal to which all seedling florist's flowers and hybrids should be submitted previously to being sent out by the trade. The necessity for the formation of such a tribunal was shown from the fact that introductions of doubtful value had been certified as of first-class qualities by censors who had only a limited knowledge of the varieties already in cultivation. Mr. Edmund Foster of Clewer Manor, Windsor, a lover of the show *Pelargonium*, and at that time busily engaged in improving it, and especially in the directions of form and colour, was its president. Mr. John Edwards, an amateur cultivator residing at Holloway, and a leader among London florists, was the secretary; its treasurer Mr. Arthur Henderson of the Pine Apple Nursery. Of its thirty-nine committee—a band of florists representative of the whole kingdom—there is reason to believe only one remains—viz., Mr. Wm. Paul of Waltham Cross. This society had a chequered career up to the early part of 1859, when it was dissolved for the reason that the council of the Royal Botanic Society, London, had announced its intention to hold extra meetings for the purpose of awarding prizes to seedling plants, both species and varieties, therefore its dissolution was decreed, and the treasurer at that time, Mr. Richard Stains of the Marylebone Road, took charge of the documents and other property of the society. Mr. John Edwards retired from the position of secretary at the end of 1857, and I was elected in his place. The proceedings from its commencement to its close were published in two volumes, and they furnish an interesting and instructive record of painstaking work. The closing meetings of the society were, like the earlier ones, held at 21, Regent Street. At one time they were held at St. Martin's Hall, Long Acre, and also in St. Martin's Court, Trafalgar Square, when the Royal Horticultural Society occupied rooms there.

For some time after the National Floricultural Society was formed George Glenny and his associates waged a fierce warfare against it, probably because Glenny felt that his particular function in those days, as a recognised authority on florist's flowers, was in danger of being superseded. For some reason, it would appear, the Royal Botanic Society did not carry out its intention of forming a body to award prizes to seedling plants, though for years new florists' flowers were always exhibited in considerable numbers at the exhibitions held in the Regent's Park, and a small committee of such experts as Richard Stains, Anthony Parsons, F. R. Kinghorn, William Holmes, Charles Lidgard, with one or two others, made awards of money prizes and certificates of merit to such as were deemed worthy. Perhaps it is well that the Royal Horticultural Society rather than the Royal Botanic Society took the initiative in forming the committees.

Volume I of the Proceedings of the Royal Horticultural Society from June 1st, 1859, gives a report of the preliminary proceedings of the Floral Committee, at which the regulations for the guidance both of members of the committee and of exhibitors were laid down; the Rev. Joshua Dix, a City clergyman with strong floricultural tastes, being in the chair. The first chairman of the Floral Committee was Mr. John Jackson Blandy of Reading, a member of the Council of the R.H.S., and a cultivator and exhibitor of specimen plants; the secretary was Mr. Thomas Moore, curator of the Apothecary's Garden at Chelsea. Of the thirty-four members of the first Floral Committee only five are living at this time—viz., Mr. Samuel Ainsworth (Messrs. James Carter & Co.), the Rev. H. H. D'Ombrian, then at Deal; Dr. M. T. Masters, then lecturer on botany at St. George's Hospital; Mr. William Paul, and Mr. H. J. Veitch. It was a remarkable body, every member representative of floriculture had made his mark; the qualification for office was long experience or special botanical knowledge, no one was regarded as competent to occupy a seat on the committee who was not a specialist or who had not achieved success in some direction or the other.

It is worthy of note that for the first ten years of their existence the two committees were permanent bodies, and each member may be said to have enjoyed security of tenure; as vacancies occurred the committees nominated persons to fill them, and the council invariably accepted them. Then came the time when the council decreed the committees should be dissolved at the end of the year, and be reconstituted by the council. In taking this step the council may be said to have robbed the committees of the right of nomination. The council now fill the vacancies, and sometimes in such a manner that old members occasionally see a new one among them, and put the question, "Who is he?" and "What are his qualifications?"

The Rev. Joshua Dix succeeded Mr. Blandy, who died in 1866, as chairman. On the death of the Rev. Joshua Dix Mr. William Marshall, the present chairman of the Floral Committee, succeeded to that office; on his retirement he was followed by Dr. Denny; then Mr. W. B. Kellock; Mr. C. F. Wilson succeeded the last named; and on his retirement Mr. W. Marshall was reappointed.

As I became a member of the Floral Committee in January, 1868, and with intervals of retirement have remained a member to this day, I am able to write with personal knowledge of much which I have set down as preliminary to some sketch of the work of that body during the term of its existence, and in much of which I have taken part.—R. DEAN.

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NOTES

NOTICES

Recent Weather in London.—On Saturday last the wind blew cold the whole of the day, varying from north-east to east until Sunday night. On Saturday there were frequent cold drizzles, but on the two following days we experienced only one or two small showers. Tuesday opened wet, but the sun shone later. Wednesday was dull.

The Presidency of the Royal Botanic Society.—At a recent meeting of the council of the Royal Botanic Society a letter from the Duke of Teck was read. The letter was dated from Pretoria, and stated that the Duke of Teck appreciated the honour the council had done him in asking him to become president of the society, and that he had great pleasure in accepting the offer.

Gardening Appointments.—Mr. Hy. Grantham, for four and a half years foreman at Sunningdale Park, has been appointed head gardener to Vere L. Oliver, Esq., Whitmore Lodge, Sunninghill, Ascot. Mr. David Crombie, for the past fourteen years head gardener to Viscount Powerscourt, K.P., Powerscourt, Enniskerry, has been appointed head gardener to the Marquis of Waterford, Curraghmore, Portlaw, co. Waterford. Mr. T. Tullett to be head gardener to G. Courtauld, Esq., Cut Hedge Gardens, Halstead, Essex.

Brixton Horticultural Society.—Mr. W. Roupell, Harvey Lodge, Roupell Park, the honorary secretary, favours us with a copy of the schedule of the exhibition to be held at the Hall, near Streatham Station, on November 7th and 8th. Particulars of upwards of three dozen classes are furnished, in several of which excellent prizes are offered. Several local gentlemen, including Mr. N. N. Sherwood, V.M.H., offer special awards which, with the society's prizes, should be sufficient to insure an admirable display. The society is situated in one of the best gardening districts round the metropolis, and for years has furnished its supporters with a splendid exhibition. Entries must reach the honorary secretary at the above address not later than Wednesday evening, October 31st.

Bristol Gardeners' Association.—Particulars of the meetings to be held at St. John's Parish Room, Redland, on the second and last Thursdays in each month, at 7.30 P.M., from October, 1900, to March, 1901, are as follows:—Oct. 25th, "Culture of the Croton," Mr. Shaddick, Stoke Bishop; Nov. 8th, "Fungi, with some Reference to their Food Value," Mr. J. Phillips, Clifton; Nov. 29th, "Grape Culture," Mr. John Kitley, Alvaston, Derby; Dec. 13th, "The Hardy Fruit Garden," Mr. Thos. Coomber, Hendre, Monmouth; Dec. 27th, Public Entertainment, chairman, H. Cary Batten, Esq., J.P.; Jan. 10th, "Six Good Vegetables and Their Cultivation—viz., Beans, Cauliflowers, Celery, Onions, Peas, and Potatoes," Mr. W. J. Hockey, Yatton; Jan. 31st, "A Few Words about Leaves," Mr. A. Moore-Sara, Stoke Bishop; Feb. 14th, "Insect Pests," Mr. W. G. Smith, Knowle; Feb. 28th, first prize essay on wall fruit trees; March 14th, "The Fuchsia," Mr. J. Julian, Hon. Secretary of Cardiff Gardeners' Association; and March 28th, "Flowering Shrubs," Mr. G. Brook, Clifton.

Croydon Mutual Improvement Society.—One of the largest meetings was held at the society's room on 15th inst., when Mr. W. J. Simpson occupied the chair. There was a fine display of cut Chrysanthemums, fruit, and plants on the tables. The chairman introduced Mr. M. E. Mills, who gave a thoroughly practical and seasonable paper on "Chrysanthemums." Mr. Mills commenced his paper with the selection and preparation of soil, manures, and cuttings. Potting was next dealt with, stopping and timing fully noted, summer treatment, tying and staking, syringing and water received due attention. Mr. Mills gave an excellent diary of the cultivation of the "Mums" as practised by himself at Coombe House. Insect pest, mildews and diseases and their cure and prevention were skilfully handled. Housing of the plants and preparation for exhibition received special attention. The paper throughout proved Mr. Mills to be a master of the work, and was listened to with the greatest attention, and at its close met with hearty applause. A number of questions were put to Mr. Mills, to which he replied, and a most profitable and interesting discussion followed. On the proposition of the chairman, seconded by Mr. W. Harris, a unanimous vote of thanks was given Mr. Mills.

Agriculture in New South Wales.—The total area under cultivation in New South Wales is two and a half million acres, an increase in twelve months of 85,859 acres. There are nearly two million acres under Wheat, an increase of 69,560 acres.

Swanley Horticultural College.—On November 3rd the Chrysanthemums will apparently be at their best at this educational establishment, and several invitations have been issued by the principal. The college, the houses of residence for women students, and the grounds, will be open for inspection.

Battersea Chrysanthemum Show.—The annual autumn exhibition of the Battersea, Clapham, and Wandsworth Amateur Chrysanthemum and Horticultural Society, of which Mr. J. O. Langrish, 167, Elsley Road, Shaftesbury Estate, is the esteemed hon. secretary, has gradually grown in excellence and importance until it has come to be regarded as an important event in the district. This year's show is to be held in the Town Hall, Lavender Hill, on November 2nd and 3rd, and the thirty-six classes should bring forth keen competition and some excellent products. Some of the prizes are very good indeed, and the society deserves even more support than is at present accorded to it.

An Interesting Exhibition at Worcester on Oct. 20th-24th.—This attempt made by the Worcestershire County Council must be regarded with satisfaction. The Shire Hall in Worcester is spacious, and when the show was opened on Saturday the capacity of the hall was taxed to the utmost with the abundant exhibits. The object of the Agricultural Sub-Committee members was to obtain a representative display of the garden and farm produce of the county, but as prizes could not be offered, it was decided that judges be appointed to examine critically the whole of the exhibits, and classify them as first or second according to their merits, leaving out all that did not secure sufficient points to entitle them to a place in these two grades. Apples and Pears were admirably represented by good quality fruits in about 140 separate entries. Collective exhibits were also sent from Madresfield, Knightwick, and Tenbury, which were meritorious in a high degree, and added materially to the extent and interest of the show. Cider Apples and perry Pears constituted a separate department, and demonstrations were given in cider pressing and other work during the time the exhibition continued open. Preserved fruits had classes devoted to them, and simple methods of fruit drying were illustrated by apparatus for the purpose. Farm roots and other vegetables were shown in excellent form, also Hops and cereals, bee-keeping, dairy-work, and produce being strongly represented. Conferences on fruit and other subjects were held on Monday, Tuesday, and Wednesday, the latter being the concluding day of the show.—R. LEWIS CASTLE, *Ridgmont*.

Reading Gardeners' Mutual Improvement Association.—"Fruit Trees in Pots" was the subject of a paper read by Mr. James Hudson, V.M.H., of Gunnersbury, before the members of the above association at their fortnightly meeting on Monday last. It is hardly necessary to say, when remembering the great success achieved by Mr. Hudson in the pot culture of fruits in orchard houses, that the paper was of the most practical description. The subject was placed before the members in a very clear but comprehensive manner under the following headings, enabling each one to understand the routine of work, which brings success, from the purchasing of trees to the gathering of the fruit:—Construction of houses; forcing and non-forcing; pot culture *versus* planted-out trees; the longevity of trees in pots; when to purchase; what to purchase; when to pot; potting; soils; pots and sizes; watering; manures; ventilation; temperature; pruning; thinning the crop; gathering; insects; outdoor treatment; varieties. Many questions were asked, and an interesting discussion ensued, in which Messrs. F. B. Parfitt, J.P.; Barnes, Baskett, Cretchley, Townsend, Lever, Neve, Fry, and Wilson took part. A beautiful exhibit of flowers cut from the open was put up by Mr. Wm. Townsend, Sandhurst Lodge Gardens, comprising thirty-eight varieties, including Fuchsias (fifteen varieties), Pelargonium, Salvia, Habrothamnus, Solanum, Abutilon, Hydrangea, Lobelia cardinalis, Verbena, Jacobea, and Petunias. Mr. E. S. Pigg, The Gardens, Samoa, Reading, staged a very nice lot of Caladiums, whilst Mr. Hudson showed four varieties of Apples and four varieties of Pears grown under the treatment he described. A hearty vote of thanks was accorded to the lecturer and to the exhibitors. Mr. D. Ager, The Gardens, Downs House, Reading, was awarded the association's certificate for cultural merit for two plants of Chrysanthemum Mrs. Coombes. Six new members were elected.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Hessle Gardeners' Society.—The above society held the first of its fortnightly meetings on October 2nd. Mr. Leadbetter, Tranby Croft, was appointed chairman, and Mr. Blair vice-chairman. The essayist for the evening was Mr. Picker, Hesslewood, whose subject was "Herbaceous Plants and their Culture." Mr. Picker rendered much useful information of the culture of these very popular plants; he also contributed towards the evening's entertainment by exhibiting a magnificent collection of herbaceous plants in flower, which were awarded the society's cultural certificate. The second meeting was held October 16th in the parish schoolroom, Mr. Blair presided. The subject for the evening was "Garden Pests," read by Mr. Akester, North Ferriby, and the subject proved both interesting and beneficial, and was thoroughly appreciated by the members present.—J. F. D.

Liverpool Grain, Root, and Fruit Show.—For eleven years this society, promoted by the Liverpool and District Farmers' Club, has continued its useful and beneficial course, stimulating the many very excellent cultivators of the land to grow the best only of the produce sent out by the leading seed firms in the land. On October 13th Potatoes were remarkable. Mr. B. Ashton, gardener to Lord Lathom, Lathom House, secured the premier position in several classes. Messrs. John Halsall, J. Johnson, James Parker, E. Harrison, B. Bowen, and W. Forster were also successful. Special prizes were offered by Messrs. Sutton & Sons for the best three distinct dishes, and for the best dish of nine tubers distinct, Mr. Ashton winning with magnificent produce. Messrs. Webb of Stourbridge offered a special for three distinct dishes, Mr. J. R. Newton winning. Messrs. Dickson & Robinson's prize was won by Mr. T. Coleman. Vegetables formed a show in themselves, the root crops, such as Carrots, Beet, Parsnips, and Leeks being splendid. In such a wonderful fruit year, and with many shows to follow in which larger classes are to be reckoned with more fully, it will suffice when we say that the quality was superb. The success of this interesting exhibition is due in no small measure to the untiring energy of the joint hon. secretaries, Mr. Robert Mawdsley, Yew Tree House, Halewood, and Mr. Austin Peppin, Ivy Villa, Melling.

Devon and Exeter Gardeners' Association.—The annual meeting was held on October 12th at the Guildhall, Exeter, the Mayor (Mr. H. P. O. Hamlin) presiding. The committee stated that after nine years of good solid work, carried on without interruption on the lines originally laid down by the founders, they were pleased to be able to present a report which was at once gratifying as to the past and encouraging as to the future. Having reviewed the work of the session the report went on to state that the essays and lectures given and the general work of the association were all in strict keeping with the furtherance of practical and scientific gardening in its modern phases. Reference was made to the success attending the annual excursion, which was to Lyme Regis, Rousden Seaton. The committee desired to record the continued kindness and interest shown in the association by their esteemed President, Mr. E. A. Sanders, and also expressed their indebtedness to his Worship the Mayor of Exeter for permitting the society the use of the Council Chamber in which to hold the meetings. By the help of the gardening and local Press the proceedings of the society had been well and fully reported, and that, no doubt, had to a great extent made the association well known and popular. The committee on the whole had much to be thankful for—the support given to the association, for its continued prosperity financially and otherwise—and had every ground for believing that there was a successful future before it. The Mayor, in moving the adoption of the report, said he did not know any pastime more fascinating than gardening. And it was not only fascinating, but healthy, and afforded pleasure to one's self and one's friends. Moreover, it tended to very great improvement in the taste of the people. Mr. Pengelly seconded, and said they were indebted to the hon. secretary for infusing the report with life, that the association was doing a work in Exeter which no other society was doing, and that it had some influence in the City Council, as indicated by the care which was now being taken of the public grounds. The motion was carried unanimously. Thanks to the Mayor for the use of the Guildhall and presiding closed the meeting.

The Fruiterers' Company.—In accordance with ancient custom the Fruiterers' Company presented the Lord Mayor with an assortment of home-grown fruits in the drawing-room of the Mansion House on the 16th inst. Mr. Joseph Dawson, the master of the Company, made the presentation, and the Lord Mayor, in acknowledging the gift, spoke of the excellent work done by the Fruiterers' Company to encourage the growth of fruit in this country.

Shirley Gardeners' Association.—The monthly meeting in connection with the Shirley Gardeners' Association was held on October 15th at the Parish Room, Shirley. The meeting was of more than ordinary interest, as Mr. James Hudson, F.R.H.S., V.M.H., gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton, was present to lecture on "Orchard-house Trees in Pots." Mr. B. Ladhams presided. The lecturer, in the course of his paper, advocated growing fruit and flowers in pots in localities where spring frost would destroy the bloom. Another reason in their favour was that they could be forced, and that instead of one crop you could get two or three in a season. In conclusion, Mr. Hudson dealt with the best time to pot the trees, and said it was undoubtedly in the autumn, and added that it should be done every year. A discussion followed the lecture, in which several members asked Mr. Hudson questions which were answered. The following members gained the society's first-class certificates:—Mr. Jas. Hudson, for a collection of pot-grown Apples and Pears; General Nisbett (gardener, Mr. E. J. Biggs), for six dishes Apples, three dessert, three kitchen, and twelve Tomatoes; Mr. B. Ladhams, for a collection of cut flowers; Col. Simkins (gardener, Mr. E. J. Wilcox), for a plant of *Mina lobata*; and Mrs. Twyham (gardener, Mr. G. W. Othen), for twenty very fine Pears, Pitmaston Duchess. Secondary awards went to Mr. A. H. Cobbold for one dish of Apples and one of Quince; and to S. M. Marker, Esq. (gardener, Mr. J. Wright), for three dishes dessert Apples.

Early Snow in South London.—The wave of cold air which has come down from the northward serves to remind us that, in spite of the mild spells we have had recently, the winter is not far distant. A week ago snow fell in the hilly districts of North Britain, and in the course of Sunday a few stray flakes were observed in the south-western suburbs of London. Many years ago a writer in "Symons' Meteorological Magazine" drew attention to the singular connection between early falls of snow in the neighbourhood of London and the weather of the following winter. Between the years 1810 and 1880 there were, it appeared, only twelve years in which snow had made its appearance so early as October, and in eleven of these cases the temperature of the succeeding winter was below the average. Since 1880 there have been four more cases with snow in October, and in two of these the following winter was somewhat mild. If we take the whole sixteen cases, going back direct to the beginning of the century, we find that in no fewer than thirteen the early snow was followed by a winter of greater or less severity. The only consolation to be derived at present from so disconcerting a fact is that the snow of Sunday was so extremely slight that it may not count. The heaviest October snowfall on record in London appears to have occurred on the 19th of the month in 1880, when a depth of 2 inches on the ground was recorded.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
October.										
Sunday.. 14	W.N.W.	deg. 47.1	deg. 42.6	deg. 49.7	deg. 42.8	ins. 0.04	deg. 51.8	deg. 55.0	deg. 56.2	deg. 35.8
Monday.. 15	W.N.W.	45.9	41.1	52.2	37.2	—	49.0	54.4	56.0	29.5
Tuesday 16	S.E.	43.8	40.4	55.3	31.0	—	43.2	53.5	55.8	21.6
Wed'sday 17	S.S.W.	54.9	52.8	63.4	43.8	0.03	50.1	53.0	55.5	37.9
Thursday 18	W.N.W.	51.9	49.1	55.2	47.7	0.02	50.9	53.3	55.3	36.7
Friday .. 19	N.N.E.	48.9	46.3	55.3	45.3	—	51.5	53.3	55.1	42.3
Saturday 20	N.N.E.	46.4	43.8	50.1	43.5	—	51.1	53.3	54.9	39.3
MEANS ..		48.4	45.2	54.5	41.6	Total 0.09	50.4	53.7	55.5	34.7

A week of dull, almost sunless weather, with cold winds and slight showers on three days.



Mulching Asparagus Beds with Manure.

I NOTICE in the Journal of October 11th (page 336), that "G." recommends mulching Asparagus beds with manure. It was practised here for a number of years—in fact, I believe at one time it was considered absolutely necessary, and of course I thought so, until I was taught by Nature's laws that it was not, but, on the other hand, injurious to the roots during winter. I had a few roots at the end of one of my beds that strayed, and consequently missed the mulching of manure, and they came in the spring quite a week earlier, and much stronger. I therefore gave up the mulching. I fancy I hear someone saying, "What sort of a soil has he?" Well, it is a heavy, loamy soil, adapted for Rose and fruit growing. Others may say that with a dry gravelly subsoil to contend with mulching would be necessary and beneficial. But I have an old friend and neighbour who has a light soil and gravelly subsoil, and his Asparagus beds were anything but satisfactory until he gave up the autumn mulching. It is now five or six years since he gave it up, and he recently told me that the last season had been the best one he had ever had. Some of my beds I know are more than eighty years old, and possibly a hundred, as the gardens here were made in 1798, and I can say they are in every way satisfactory.—T. WELCH, Grove Hall, Retford, Notts.

Autumn Primrose Flowers.

WHAT a melancholy jeremiad the "Morning Post" seems to have uttered, according to the short paragraph on the above subject quoted from that journal last week. A less lugubrious or pessimistic writer would have deduced from the report of Primroses being in bloom now very favourable omens of the success of a certain political party at the polls. But in either case the deductions would be nonsense, for the simple reason that the Primroses in question are not those of *P. vulgaris*, but of the garden forms of Polyanthus or Primrose, which differ materially from the prototype. But this autumn blooming is nothing unusual. I have had plants that during such seasons as the past have retained their leafage well, that have bloomed by hundreds at this time of the year, and, if the weather has been mild, literally all through the winter. I have no doubt there are hundreds of gardens where the blue Primroses are flowering now, and certainly vast numbers where the Polyanthus are in bloom.

It is amusing to find some person who has perhaps a score of plants in a garden of 10 rods in area getting one or two into bloom, thus, as it were, out of season, and at once rushing headlong into print with the little incident related, as though it were a wonder, or perhaps more marvellously, an important political omen. How many persons who grow Violets have not on their plants precocious blooms. The flowers can now be purchased cheaply because plentiful.—A. D.

Automobiles and Fruit Transit.

I NATURALLY wondered when I read your note of Mr. Bunyard's paper read before the Horticultural Club and the discussion which followed, what would have to be the nature of the motor or automobile service which could compete with railways and convey fruit from the orchards to London or other market centres. Does not the idea suggest to practical minds something of Utopia? Imagine one locality having a daily consignment of say 1000 bushels of fruit, how many of these contemplated motors would be needed to cart them distances of from twenty to fifty miles, and how long would they be in the doing it? Still farther, after being jolted over our roads by such method, what would be the condition of the fruit when it reached its destination? Should, too, a leading motor break down, and that seems a common occurrence, what a fine block of all the later traffic would be created.

The proposal seems even less feasible than is that suggested previously of utilising water transit, which, apart from being terribly slow, is not available for the more remote fruit growing districts. But the vote showed that because of the immense strain put upon the metropolitan markets and salesmen through the immense quantities of fruit sent in, it was clear that to send still more of fruit to the metropolis would be sheer folly; as it was the enormous quantity sent reduced prices far below profit capacities. The defects of our fruit growing methods are that we produce far too much inferior fruit and not nearly enough of the best. The inferior bulks pull down prices, and the best, when it is found, suffers in consequence. But really it is impossible for fruit in any appreciable quantity to find its way to market unless through the railways, and the aim of fruit growers should be to improve that mode of transit.—ONLOOKER.

Birds v. Fruit.

WITH the approach of the ripening season of many or almost all fruits, the worries of the fruit grower are set in motion by the persistent visitations of birds—blackbirds, thrushes, and tomtits in particular. At the present season, or from August onwards, when Pears as they approach their matured stage, tomtits are sure to make their presence felt by the spoiling of the best samples, both in the matter of variety and specimen. They are extremely good judges of the best, and Pears of any particular merit are the first to be molested. As a rule we have had not only the birds in question, but wasps and hornets following in their train, the holes made in the fruit by the birds being just what the wasps and hornets require, hence one is a convenience for the other, and the gardener finds much of his fruit dwindling away as food for these intruders instead of filling his fruit store shelves. My experience this year has been a pleasant surprise, tomtits for some reason having been absent. Perhaps in the country's wealth of Apples and Pears they may have found "other fields and pastures new." Pears like Marie Louise, Doyenné du Comice, and Seckle it has been useless attempting to cultivate unless the fruit could be protected with fine-meshed nets or muslin bags. Though wasps have been numerous they have given no trouble whatever among Pears, but Plums as usual have received a share of attention. The wealth of these, however, made it such that the proportion spoilt by them has scarcely been felt. There is a little mystery about the absence of "tits," because for several seasons war has been waged against them without any apparent diminution of their numbers in autumn. A few stray birds have been seen occasionally this autumn, but they did not stay. It would be interesting to know if other readers have had a similar exemption from the raids of tomtits and wasps as affecting Apples and Pears, or whether it has only a local bearing.—W. S., Wilts.

Iris Susiana.

A CORRESPONDENT some months ago requested information regarding the proper treatment of this grand flower. It was touched upon in the Journal in 1899, but what was written then may be supplemented at the present time, when planting should be effected. *Iris Susiana* is a native of the Levant, and consequently is not so hardy as Continental species.

The difficulty attending its cultivation is increased from the plant commencing to grow in late autumn and continuing in growth throughout winter and spring till its foliage dies back in summer, when the rhizomes must have complete rest. These points indicate a dry position as a first essential, because if wet in winter the growth would be of a nature to succumb to a moderately severe frost, and unless very dry in summer the plant would not secure the period of rest so necessary to its existence. Water during the period between April and June is so needful that its application cannot be neglected. The base of a south wall, and in as dry a position as can be secured, is of first importance. The plant undoubtedly prefers a good holding soil, but it is wise to plant on a slightly raised mound of potting compost.

During frosty weather the foliage must be protected by means of dry fern or mats placed over the plants. I find some plants are more susceptible to frost than others, and doubtless this points to imported roots being seedlings, which is borne out by variations apparent in foliage and flowers of different plants. Like other Irises this one appreciates an annual application of manure to the surface of the soil above its roots.—B.

Tomatoes and Coal Ashes.

ONE day during the early part of the summer I called on my neighbour, Mr. A. E. Sutton, the gardener at Castle Howard, the Yorkshire seat of the Earl of Carlisle. After looking through the outdoor departments the houses were inspected, and although this is really a note on Tomatoes, I should like to pay a tribute to the excellence of the Peach houses and their occupants. Mr. Sutton drew my attention to some Tomato plants that were growing in a span-roof house, remarking that they were the strongest and best he had had for some time, but could hardly account for it as they had only 4 inches of soil to support them. They were, indeed, as good as one need wish to see; as well as being strong and healthy they carried large trusses of fruit.

There is a bed on each side of the house about 5 feet wide. These had been in previous years, I was informed, filled with soil the whole width, but I am not sure about the depth. This season a different plan has been tried. In the spring the old soil was taken out and the bed filled in with ashes, made very firm, allowing enough room for the soil to be laid on the top. Two rows of plants are accommodated, one on each side of the bed; the one nearest the pathway being trained upright, the other up the side of house and the roof. The roots are not, however, allowed the whole width of the bed, but are restricted to a width of about 14 inches by running planks along. It will thus be seen that the space allotted to the plants was 14 inches wide, and 4 inches deep. Having read in our Journal that coal ashes were excellent material for Tomatoes, I intimated to Mr. Sutton that no doubt they had a great deal to do with his good plants. No further soil has been added a

through the summer, but they have been supplied with liquid manure two or three times a week. A very heavy crop of fruit has been the result. The varieties were Challenger, Frogmore Selected, Polegate, and Veitch's Golden Jubilee. Mr. Sutton speaks very highly of the latter. The Tomatoes were planted in a slanting position, and as they strengthened were pegged down, so that the stems threw roots into the soil, at the same time bringing the first truss of fruit almost down to the soil.—J. S. UPEX.

Renovating Vine Borders.

THE practice of remaking or renovating borders in which Vines are growing is one of the most interesting in gardening, as really remarkable results may follow with even very old Vines when the best methods of procedure are adopted. The article by Mr. H. Dunkin, in your issue of October 11th, proved particularly interesting to me, as I have of late had some experience of the work, and I am sending you a photograph of a bunch of Black Hamburg Grapes weighing upwards of 6 lbs., and which was produced by a Vine at least a quarter of a century old, that had been subjected to a process of renovation. I also send details of the work done, as these may possibly be of value to readers of the *Journal of Horticulture* who have similar Vines under their control.

The bunch represented fig. 104) was produced on a piece of the previous year's wood, 3 feet 6 inches in length, and now 2½ inches in circumference; three bunches were allowed to remain on this short piece of extension, and they were within a space of 16 in. run. The two smaller bunches weighed respectively 2½ lbs. and 1½ lb., thus giving a total of 10 lbs. of Grapes; all were fairly well finished. The Vine is in our midseason vinery, in which Black Hamburg is practically the only variety grown.

The Vines, I believe, years ago produced heavy crops of fine Grapes. On my taking charge a few years ago my employer suggested that they should be cut out, as they seemed quite exhausted. However, I thought they might advantageously be given another chance, and the result was that the few bunches produced contained many shanked berries.

We then determined to see what could be done with the border. The soil near the surface was sour and almost destitute of roots. Several loads of rather heavy loam were procured, and with this we thoroughly incorporated in various proportions lime rubble, wood ashes, small bones, and Thomson's manure. The old soil was taken away until we came where the roots were a little more abundant, but even these were very short of feeders. The new soil was wheeled in and carefully placed amongst the roots, finishing off

with a light coating of cow manure and leaves. In this case it was not necessary to get to the drainage, as our fruit houses are situated at the top of a sharp slope on a very sandy soil, our borders, excepting a late house, being wholly outside, and we find a mulching absolutely necessary in the summer months. After this treatment the Vines made very strong growth, in fact it was much too vigorous, and the foliage was too large. However, the border has now become filled with roots, and the Vines are behaving themselves better.

The old spurs continue to produce some finely finished but very small bunches, but, acting on past experience and the advice of one or two excellent Grape growers and most capable gardeners, my policy in future will be to lay in new wood anywhere that there is

space to ripen it. Last year, in the same house, I had a bunch of Black Hamburg weighing nearly 6 lbs. produced on a piece of wood 3 feet in length at the top of the vinery, and yet the old rod did not produce a bunch more than ½ lb. in weight. I do not wish to advocate the production of large bunches, but the lesson I have learnt is that there is often much pent up energy in what may seem exhausted Vines if we will only increase the food supply and allow the growths to extend. Our requirements demand medium-sized bunches of as good finish as possible.

One other case I might mention. In our late house we have a Mrs. Pince, which I believe, has been planted twenty years, and always spur-pruned. Well, this season the old rod has three not very good bunches on its entire length 20 feet, while on a length of 3 feet 6 inches of last year's wood are three bunches, which weigh at least 9 lbs.

Mr. Poole, of Hill Grove, Kidderminster, has grown some of the finest examples of this excellent late Grape it has been my good fortune to see. I should have stated that the Hamburg Vine, first noticed, produced

ten bunches on the old rod, which, although small, were of a good colour.—W. H. WILSON, *Moor Hall Gardens, Stourport.*

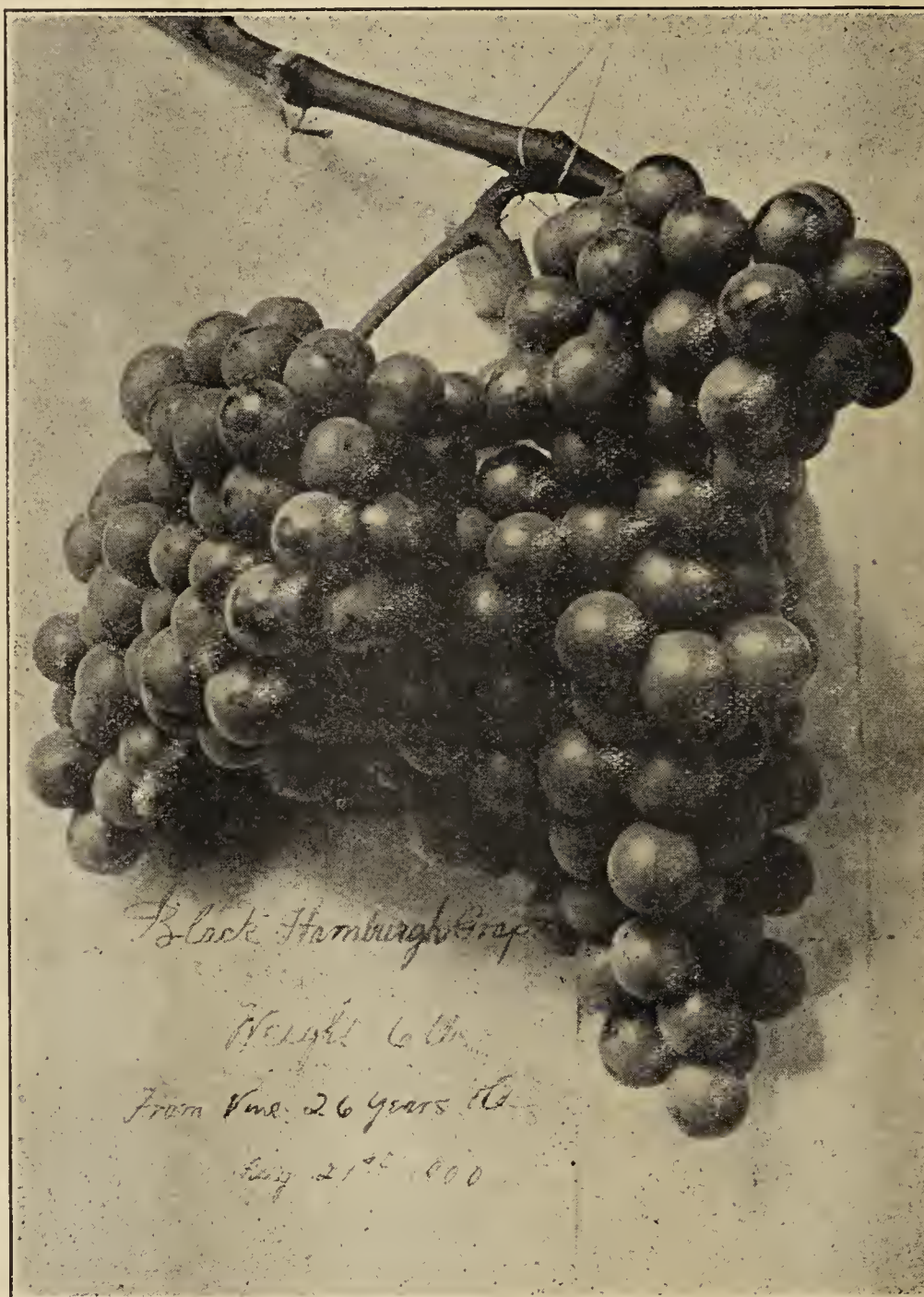


FIG. 104.—GRAPE BLACK HAMBURGH.

The Gardens at Buxton.

A RARE charm do these beautiful grounds possess. Situated in an undulating valley of the Peak district, sheltered by rising ground on all sides, with the distant hills of varying heights ever in sight, and watered by a clear rivulet—the Wye—these fine natural grounds have been utilised to their utmost extent, and made, by every means of art and science and the energy of man, into what may perhaps be regarded as a park, which, of its kind, is second to none in the United Kingdom. Its elevated height, over 1000 feet above sea level, insures a purity of

atmosphere rarely to be obtained in gardens of a similar character, and at nightfall, under the influence of soothing strains of music, and seated or strolling amid the lights and shadows of fragrant shrubs and sweetly perfumed flowers, one may well be excused if a comparison to the fairyland of one's youthful fancies is conjured up and indulged in. "God created the country and man made the town," says the proverb; but here indeed may be found a combination of both, under the happiest possible circumstances.

Perhaps the finest point of vantage is standing about the centre of the grounds, on the edge of the lake, with its elegant little wooded island in mid-stream, looking upwards towards the blue-tinted and Heather-clad moors, and carrying one's eyes, as a climax, to rest upon the little white inn, designated the Cat and Fiddle, reputed the highest hostelry in England, and situated at an altitude well over 2000 feet. Soloman's Mount, clad in ultramarine hues, and the picturesque village of Burbage are also conspicuous features in the landscape; while the Corbar Woods on the right flank, densely covered with Fir and Pine,

The semi-underground grotto-like rockeries full of fossils and many rare Ferns, including the handsome *Osmunda regalis*, form an agreeable variety in one's strolls, and a truly grateful retreat on a hot summer's day. On the last occasion that it was this scribe's good fortune to make these grounds a favourite lounge a violent thunderstorm had temporarily flooded these rockeries as well as washing down large masses of gravel from the higher walks. A sad story was related to me anent the lake looking so placid and harmless in the noonday sun. One solitary swan of stately mien and proudly arching neck was sailing grandly over the waters. It was a bird of terrible and cruel habits, his snow white appearance grievously belying his black record of crime. Only the previous summer it had, after its mate had patiently sat her course of six long weeks, torn their little joint offspring to pieces soon after their appearance in the world, and had this present season capped the enormity of this crime by deliberately drowning the mother by forcing her under water till life was extinct.



FIG. 105.—A GLIMPSE OF BUXTON GARDENS.

and their sombre appearance lit up by the setting sun, form, as a passer-by of French nationality enthusiastically exclaimed, *Quel joli coup d'œil!*

Speaking of Burbage, I think it was the rectory which struck me as being a gem of floral beauty, with its *Mimulus* and other flowering creepers almost covering the house in every part; and its garden of bright flowers and shady nooks—fit place for a poet to dream in, or the lover to indulge his happiest hours. I think the perfect manner in which the lawns were kept impressed me as much as anything about the actual cultivation of the gardens; of considerable extent, undulating and sloping in all directions, as well as beautiful stretches on the flat, the very highest credit must be awarded to those in charge. The bowling green as a dead level may doubtless hardly be excelled elsewhere, and a square of magnificent and noble proportions it is too. At a point of vantage not far from here the large dome of the hospital (said to be the largest in the world, though surely the Duomo of Florence must be a severe rival), formerly the Riding School of the Dukes of Devonshire, may be observed, a visit to which for its marvellous echo, reminding me of a somewhat similar building and echo at Bankipore in Bengal, will well repay one.

After this sad and painful digression, let me dilate for a moment in closing upon a happier and brighter theme. Good wine, saith the Scriptures, should be kept till last. I will exhibit mine in the form of a floral display rarely to be seen, even in the most carefully kept private garden. Early in the season the *Rhododendron* and *Azalea* are of course hosts in themselves, and a feast for the eye to dwell upon. But later one gains in colour and variety. Perhaps the *Viola* is the chiefest of the smaller plants, and here attains an excellence which its beauty well merits. Of every known colour, this beautiful little flower with its pure and modest demeanour meets the gaze at every turn. The showy red *Potentilla* and the tribe of *Lilium* occupy important spheres in the internal economy of these grounds, while *Alpenroses*, *Mimulus*, close growing rock plants, yellow, white, and pink, in showy little groups, with specimens in almost bewildering variety of summer bedding plants seem to vie with each other and the larger and more important looking groups of perennials in bidding for a lion's share of the popular regard. A sojourn here in this beauty spot of Nature and Art is indeed a veritable and rich education in itself, and powerfully calculated to inspire the wanderer with higher and nobler feelings.—J. A. CARNEGIE-CHEALES.



Strawberry St. Joseph.—I saw this very useful little autumn Strawberry fruiting quite freely in the gardens of Hampton Court House as recently as October 17th. Mr. Neve, the gardener, is greatly pleased with it, and having plenty of sturdy runners is going presently to put out a large number of them. He has hopes that it may be possible to materially lengthen out the cropping season by lifting strong plants into pots, and standing them on the north side of a wall, so as to retard flowering, then putting them on shelves in a fairly cool house to cause the plants to fruit late. Could they be in that way induced to fruit only a month longer than they will naturally do so outdoors it would be a great gain. It too often happens that St. Joseph fruits at a season when they are least needed, owing to families being so much from home. Any means that will lead to late fruiting cannot but be acceptable.—WANDERER.

Potatoes from Germany.—This has been a bad year for English Potatoes, for disease has been prevalent. Consequently we shall have to import large quantities from France and Germany if the supply on the markets is to meet anything like the usual demand. "French and German Potatoes are particularly good this year," said a leading Potato merchant to a representative of a daily paper recently. "I have just come back from Germany, and have ordered large quantities from there. Generally, the foreign Potato is of a 'soapy' description, but this is not the case with those coming over this year. In past years about 4,000,000 cwt. of foreign Potatoes have come to the London market. I should estimate that this country supplies about 120,000,000 cwt. More than half the Potatoes this year will be foreigners, and this naturally will have a great influence on the London market."

Culture of Pimeleas.—Pimeleas may be grown well in a compost of turfy sandy peat two-thirds, and one-third sandy turfy loam, with the addition of enough charcoal, about the size of a pea, and silver sand to amount to one-fourth of the whole. The peat and loam should be chopped and made pretty fine, and the whole well mixed and incorporated. The plants should have a cool airy frame or pit during the summer, and in winter a light airy situation in a greenhouse, from which frost is merely excluded. They should be cut back after flowering, and when the young shoots are a few inches long the plants should be carefully potted, removing the greater part of the old soil, but preserving the roots, and in potting providing good drainage, keeping the neck or collar of the plant slightly raised in the centre of the pot. After potting keep the plants rather close and shaded for a few days; afterwards give plenty of air, and keep them near the glass; then water when necessary, but do not give excessive quantities at any time, and yet sufficient at every watering to show itself at the drainage. Careful watering is needed in winter, and plenty of air.—H. M.

Railway Station Gardens.—Travellers on the Great Western Railway will probably have noticed and admired the tastefully arranged, gardens which are to be found at many stations on that system; but it may not be generally known that the company, recognising the desirability of encouraging its staff to make the most of the garden ground available at the stations for the cultivation of flowers and shrubs, has each year, for nearly a quarter of a century, given, in deserving cases, money prizes of from £5 to 10s., the aggregate value of such prizes being £250 per annum. As was anticipated, the result has been that since the company first commenced to offer these prizes the number of stations on the Great Western line which has been improved by the addition of attractive and well-cultivated gardens has considerably increased. In awarding the prizes regard is had to the maintenance of a uniform standard of excellence throughout the season, the progress made compared with past years, the special circumstances of the station—such as situation, climate, and soil—and, so that all things may be in harmony, the neatness and cleanliness of the station generally, the results being considered by the company at the termination of the season, and the prizes distributed at Christmas.

Forcible Protests Against Weeds.—In some parts of Wisconsin a householder who allows noxious weeds in his garden to mature so that the seed may be blown into horticultural tracts owned by his neighbours renders himself liable to a fine. Something of this nature might occasionally be applicable nearer home.

Forestry in Sweden.—Nearly one-half of the total area of Sweden is under forests. The area of the country is under 100,000,000 acres, and of these no fewer than 47,000,000 acres are under trees. Over one-third of these Swedish forest lands belong either to the State, to certain communities, or to public institutions. The desire to increase the public forests in the country has led the Swedish Riksdag to devote a large sum of money annually to the purchase of land in order to establish new forests, or, as they are there termed, crown parks. This is one of the many instances in which our Government at home might profitably take a leaf out of the foreigner's book.

The Fly Agaric and Puff-ball.—Two species of fungi to be seen in many woods, meadows, and plantations just now are the Fly Agaric and the Giant Puff-ball. The former has a vivid crimson pileus studded with yellowish spots or warts. It is a beautiful and showy fungus in autumn, but must on no account be eaten. It is said that this Agaric is eaten in Russia, where the people have some device for extracting its poison in the process of cooking, but it is well to regard it as deadly in this country. The other fungus, the Great Puff-ball, is edible. This year many Puff-balls of an unusually large size have been seen in various parts of England, but they are rarely eaten, being regarded by country people with suspicion. The Puff-ball is best eaten when it is young; it is then quite cream-like, and many prefer it to the little Mushroom "buttons."

The Vintage in the Champagne Country.—Mr. Charles Heidsieck, Rheims, writes, giving a very satisfactory account of the vintage this year in the champagne country. "In the spring of the year," he says, "Vines progressed satisfactorily, but our *bête noir*, the frost, did some slight damage on the morning of May 20th in many localities, more especially to the lower valley of the Marne, and in some of the White Grape districts, but not sufficient to cause much anxiety." The flowering of the Grapes took place in most favourable circumstances. The weather continued warm during July and August, slight rain falling at the end of the period with beneficial effect. The Grapes matured in exceptional conditions during September, not a drop of rain falling, and the prospect of a fine vintage was assured. The work of gathering began generally on September 25th, and the weather was most favourable for the purpose. The opinion throughout the various districts is unanimous that so fine a vintage has not been seen for twenty or thirty years. The Vines are free from mildew and other objectionable things, while the phylloxera has made small progress.

Marrows Without Manure.—In private gardens, as a rule Vegetable Marrows, without the proverbial manure heap, are not often to be found, except in stray cases, and I must confess to the adoption of the practice for some years. That they can be grown without manure, or even without digging the ground, I have had ample proof this summer. True, the manure heap has been requisitioned this year as usual, for the early summer portion of the crop, because without such aids there cannot be the same early cutting. Marrows being in good demand all the summer, I resolved to set apart more ground for them, so that any surplus beyond the daily needs could grow on and ripen, and thus a store for the late autumn and winter would be in a measure assured as a continuation to that of the summer. This is a common custom with the cottager, and what is good in such cases might be made to apply to the servants' hall, if they were not deemed suitable for the dining room. On the manure heap Marrows suffer severely when such periods of drought occur as that known this year, and this being so, the supply obtained often fails to extend beyond that required from day to day. Having a vacant plot of ground in May seeds of two or three varieties of Vegetable Marrows were dibbled here and there in it, inserting a stick or label as an indication of their whereabouts. These came up sturdily, and at a time when spring frosts were past, and though poor, the ground had not produced a Marrow crop before, and thus their vigour and freedom of fruit bearing eclipsed anything obtained before, even when much more elaborate preparations were made. As a help against the summer, and also to furnish a strawy bed for the fruits to lay on, a light coat of litter was spread over the ground as soon as the lateral growth began to spread, and this answered the purpose admirably.—W.S.



Forthcoming Shows.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the respective secretaries:—

- Oct. 30, 31.—CROYDON.—W. B. Beckett, 272, Portland Road, South Norwood.
- „ 31.—PENARTH.—Hy. A. Allen, 3, Kymin Terrace, Penarth.
- Nov. 1, 2.—BLACKHEATH.—F. Fox, The Gardens, The Cedars, Lee, S.E.
- „ 2, 3.—BATTERSEA.—J. O. Langrish, 167, Elsley Rd., Battersea, S.W.
- „ 6, 7.—BIRMINGHAM.—J. Hughes, 140, High Street, Harborne, Birmingham; F. W. Simpson, Corn Mills, Sixways, Aston, Birmingham.
- „ 6, 7.—BRIGHTON.—J. Thorpe, 53, Ship Street, Brighton.
- „ 6, 7.—COVENTRY.—J. Cooper, 31, Foleshill Road.
- „ 6, 7.—HANLEY.—W. J. Salmon, 24, Newcastle Road, Shelton, Stoke-on-Trent.
- „ 6, 7.—KINGSTON.—W. Hayward, Kingston-on-Thames.
- „ 6, 7.—SOUTHAMPTON.—C. S. Fuidge, 6, College Terrace, London Road, Southampton.
- „ 6, 7.—WEST OF ENGLAND.—Charles Wilson, North Hill, Plymouth.
- „ 6, 7, 8.—NATIONAL CHRYSANTHEMUM SOCIETY.—R. Dean, V.M.H., Ealing, London, W.
- „ 7, 8.—BOURNEMOUTH.—James Spong, Lindisfarne Gardens, Bournemouth.
- „ 7, 8.—CARDIFF.—H. Gillett, 66, Woodville Road, Cardiff.
- „ 8.—LAUNCESTON.—Edward Leamon, St. Stephens, Launceston.
- „ 8.—WINDSOR.—Herbert Finch, Bank House, Eton.
- „ 9, 10.—ALTRINCHAM.—W. Hazlehurst, 40, Railway St., Altrincham.
- „ 9, 10.—ECCLES.—J. H. Bryan, 134, New Lane, Peel Green, Patricroft.
- „ 9, 10.—SHEFFIELD.—Wm. Honsley, 28, Joshua Road, Sheffield.
- „ 13, 14.—BELFAST.—J. Macbride, Victoria Square, Belfast.
- „ 13, 14.—LEEDS.—W. Smith, The Gardens, Weetwood Hall, Leeds.
- „ 14, 15.—HULL.—Edward Harland, Manor Street, Hull; Jas. Dixon, F.R.H.S., 2, Connty Buildings, Hull.
- „ 14, 15, 16.—YORK.—G. F. W. Oman, 38, Petergate, York.
- „ 15, 16.—PARKSTONE.—T. K. Ingram, Parkstone Nurseries, Dorset.
- „ 16, 17.—BOLTON.—Jas. Hicks, 1, Beckett Street, Bolton.
- „ 16, 17.—BRADFORD.—R. Eichel, Eldwick, Bingley.
- „ 16, 17.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.
- „ 16, 17.—MACCLESFIELD.—W. Oldham, 153, Great King Street, Macclesfield.
- „ 21, 22.—BIRKENHEAD.—W. H. Yeo, 3, Clarendon Street, Birkenhead.

Early Flowering Chrysanthemums.

ON Monday, October 15th, Mr. R. Wilson, gardener to Alderman John Blackburn, Batley, gave a lecture on the above subject to a good attendance of members of the Birstall and District Chrysanthemum and Paxton Society. The lecturer commenced by saying that the antiquity of the Chrysanthemum as a florist's flower could scarcely be properly estimated, as it had been cultivated in China and Japan since the earliest times. It was generally understood to have been brought to Europe about the year 1688. The first varieties of the early flowering Chrysanthemums became known in 1850. It was interesting to record the fact that both amateur and professional gardeners were beginning to see the conspicuous part the early flowering Chrysanthemum was likely to take in the future. The lecturer gave several reasons why early Chrysanthemums should be well grown, and one of the chief points in their favour was that a novice could with ease grow a plant that would surprise anybody.

Varieties in almost every shade of colour could be had in perfection in August, September, and October, and even through November, and the plants were so hard as to stand several degrees of frost, and remain gay when Dahlias and other outdoor plants were blackened. He dwelt on the character of the plants, mentioned a number of varieties, and concluded by giving his hearers instructions as to how to grow the plant and bring it up to perfection. A good discussion followed, and the lecturer, replying, said he did not feed his plants with anything, and that he preferred boxes to pots to root the cuttings. Mr. Wilson brought with him specimens of forty varieties, three only of which had been grown indoors. He was heartily thanked at the close.

Show Chrysanthemums in October.

As a visitor at the recent show at the Aquarium I certainly concluded that such an exhibition does very little good to the favourite autumn flower. Being on the look out for early varieties of real merit, one could only find the well-known November varieties staged in bad form. There was a want of colour most noticeable; whites and yellows and faded-looking pink shades were the most prominent ones, and the blooms of these, with very few exceptions, would have been better if left on the plants a couple of weeks longer.

The most striking flower was one of Sir H. Kitchener, a bronzy yellow of attractive shape and proportions. Mrs. Coombes was represented by some excellent blossoms, which wanted a few more days' growth to properly finish them. One capital flower of Miss E. Pilkington, a variety not unlike the old Boule d'Or, a fair one of Oceana, and the list of specimens up to exhibition standard may be said to be exhausted. A glance at the names of the winning blooms in the accounts of this show will give the reader who could not attend some idea of the indifferent ones.

At previous exhibitions held in October good flowers of varieties like E. Molyneux, Mdle. Thérèse Rey, Phœbus, Edith Tabor, Mutual Friend, Mdle. Lacroix, G. C. Schwabe, among others, have been seen, but probably in the race for novelty such fine sorts are forgotten. The object of an early show is to encourage those that are generally past their best at the time of the November gatherings, yet this last one at least did nothing of the kind.

The September show of the National Chrysanthemum Society was discontinued because the want of it was not felt, and it would do little harm if the October one shared the same fate. And especially does it seem out of place this year when Dahlias are still in bloom, giving a range of colour that makes Chrysanthemums look dull. The classes again attract little competition, and were it not for the trade displays there would not be enough of Chrysanthemums to make a decent show. We associate November with big Chrysanthemums, and this is their month; and anything appearing at other seasons seem far from perfect—I mean as show flowers.

A good decorative variety is Ettie Mitchell. This bronzy coloured sort was seen in capital condition, the bank of it in bushy plants being not the least attractive exhibit. A canary yellow sport from Lady Fitzwygram named Mrs. Jas. Williams is also useful from the point of an early cut flower sort. As a member of the National Chrysanthemum Society it does not seem to me wise to waste any of its resources on these side exhibitions; I would have one great display in the month of Chrysanthemums, which never fails to attract, and there is always plenty then in the way of fine blooms to prevent a grumble from—A COUNTRY VISITOR.

In the London Parks.

For several seasons the Parks Committee of the London County Council has been providing annual displays of Chrysanthemums at certain places, and these have grown in popularity year by year. It can scarcely be doubted that they have done an immense amount of good in popularising the autumn queen, as they have proved to demonstration that admirable flowers can be produced in the metropolis. The knowledge of this fact has induced men who had not hitherto ventured on their cultivation to experiment with a few plants, and with such success that they have become necessary adjuncts to the garden. This has occurred in all quarters of London, and it can therefore be said in all truth that the London County Council did a most commendable work in inaugurating these annual exhibitions. I make a point of seeing all of them every year, and so far I have visited Victoria Park; and a few remarks may be acceptable to readers of the *Journal of Horticulture*.

Victoria Park.

One of the most representative collections of Chrysanthemums is grown at this great park by Mr. J. W. Moorman, whose knowledge of the vagaries of the Eastern flower is remarkable. It is a matter for regret that here, as well as in other of the leading parks, no fitting structure can be found in which the plants, after having been grown to as high a degree of excellence as can be looked for in London, can be displayed to the best possible advantage. I am certainly of the

opinion that much of the money that the Council annually expends on its cricket, football, and lawn tennis grounds might for a year or two be diverted towards erecting structures commensurate with the importance of the parks and the flowers that are grown therein. Such houses, with a yearly coat of paint, would be practically permanent, and I venture to affirm that there is no superintendent in any of the London parks who would not undertake to keep up a constant supply of various plants, so that the public might have access to them with advantage the year round. But I suppose we must not expect that in these go-ahead times an educational matter will be given the preference to those that are devoted purely to bodily recreation.

Let me, however, revert to the Chrysanthemums in Victoria Park, which are arranged on each side of a central path in a long span-roofed house. It was yet somewhat early when my visit was paid to speak definitely of the ultimate beauty of the entire collection, but one is safe in asserting that if the main bulk of the flowers, which will be expanded in about fourteen days, are equal to the promise of the buds to-day they will be of decided excellence. There are now hundreds of flowers of the earlier varieties in various stages of development, and some of them have a size and richness of colour that would be no disgrace to plants grown under far more favourable conditions. It is pleasing to observe that Mr. Moorman continues to grow several of the very old varieties, which have a great value for the colour of their flowers, even though these be not of present day exhibition standard. Such as Mons. William Holmes, William Seward, Stanstead Surprise, Alberic Lunden, Gloire du Rocher, and a few others produce blooms of fair size and of colour, which are absolutely invaluable in a collection such as that at Victoria Park, or indeed any of the exhibitions under the same auspices.

The white, yellow, and pink varieties that in the Japanese section so largely preponderate nowadays, are to be found in considerable numbers, but they are leavened, so to speak, by the richer hued old sorts that have been enumerated. So far as possible Mr. Moorman maintains the collection up-to-date, but it is not to be supposed that the whole of the very latest introductions can be represented. In addition to some scores of varieties of the Japanese section several incurved are to be seen, and they promise to build up some really heavy flowers. Then, too, there are Anemones, Pompons, and early flowering decorative sorts, all of which play a very important part in the general picture. In one respect the Victoria Park collection will be difficult to excel, and that is in the splendid condition of the foliage, which is large, of much substance, and of very dark green colour; in many cases it extends quite down to the rim of the pot.—MONOCLE.

Iris iberica.

IRIS IBERICA is one of the most remarkable and interesting plants which Nature has bestowed upon us, and might well be recognised as one of the wonders of the vegetable kingdom. It is of dwarf habit, with distinct, glaucous, linear, arched leaves, and produces its solitary gigantic flowers (fig. 106) in May and June on stems which seldom exceed 9 inches in height. The prevailing colour of the sepals is satiny white, with a few dull red spots about the base; the petals are strangely spotted and veined in such a manner as to almost defy description; indeed it is impossible to form any idea of its remarkable beauty without seeing it, since so curious a combination of colour is rarely seen.

The only soil in which I have known it to grow well, so as to almost attain luxuriance, is the rich fibrous yellow loam of Kent and Surrey. It should be planted out to do any good, for I have never seen it cultivated well in pots, and am of opinion that it cannot be grown to perfection in pots. Some years since I had a bed prepared with rich loam as described above, the bed was fairly moist, and was fully exposed to the midday sun. The plants were miserable enough when planted, though as it afterwards proved the right spot had been selected. The second season after planting they had made such headway as to form splendid tufts, each of which produced from two to four of its striking flowers, and during that year we had scores of its flowers. The bed in which these were planted was not allowed to become dry; and the loam being somewhat holding, though by no means retentive in character, materially assisted in keeping the plants moist. Thus placed it was evergreen, and endured our severest winters with impunity. The process has also been recommended for Iris Susiana, but happily we have instances where it has flowered for years undisturbed in cottage gardens. *I. iberica* is a native of the high mountain ranges of Western Asia, and should receive every encouragement. Slugs are a great pest to this species, as also to *I. cristata* and other dwarf members of the genus.—J. E.

Death of Mr. William Adam Gater.

THE body of Rose growers, both amateur and professional, is all the poorer through the death of William Adam Gater at Slough on the 15th inst., after an illness of several weeks, at the age of sixty-five years. Since 1858 he had charge of the Rose departments at the Royal Nursery, Slough, and from that time up to his death had proved himself to be in the very front rank of successful cultivators. Born at Cheshunt about 1835, he was apprenticed to Mr. Adam Paul, the father of the veteran Mr. William Paul, and there picked up his elementary knowledge of Rose culture. Coming to Slough when about the age of twenty-three, he threw himself into the occupation of Rose growing, and speedily made his mark.

Those who were present at the great International Horticultural Exhibition, held at South Kensington in 1866, will remember the remarkable specimens of Roses from the Royal Nursery, Slough, which were staged on that occasion, and won for Mr. Turner the first prizes for ten specimens in pots not exceeding 13 inches in diameter; for the best specimen—a truly record plant—of H.P. Comtesse de Chabillant, one of the most exquisitely formed cupped Roses of its day; for twenty plants in pots not exceeding 8 inches in diameter; and a second prize for six standard Roses in pots. The foregoing, with the gigantic Azaleas from Slough and Chelsea, were among the leading features of this famous show. In the splendid exhibitions held twenty years ago in the Botanical Gardens, Old Trafford, Manchester, specimen Roses were a leading feature, and in 1875 a number of plants were sent from the Royal Nursery, enough to fill seven railway vans, and they were conveyed by special train from Slough to Manchester by G.W. rail during the night, and were so fine that they fairly electrified the visitors by their superb finish.

Another public-spirited display of Gater's productions occurred in 1882, on the occasion of one of the great exhibitions held in the Gardens of the R.H.S., South Kensington. At that show seventy specimen Roses were staged in one group, and eleven vans, drawn by twenty-one horses, were engaged two days in conveying the plants to London—truly a great undertaking. Some will, perhaps, remember a huge example of H.P. Edward Morren, bearing 130 finely expanded blossoms? At another time there could be seen at one of the great London exhibitions a plant of H.P. Paul Perras having as many as 300 developed flowers. The following new Roses, raised at Slough, were sent out at various times:—John Stuart Mill, Rev. J. B. M. Camm, Royal Standard, Oxonian, Miss Hassard, Mrs. H. Turner, and the widely known and grown Crimson Rambler. It need scarcely be said that in all the leading exhibitions held in London for years past Turner's Roses were always a leading feature.

Those of us who saw Gater at the last Temple Show little thought it was the last London exhibition he would attend. He was in harness until illness compelled him to lay aside his life-long work. He always took great pride in every specimen he turned out; a superb finish was his forte; he had the capacity to bring out all the latent possibilities in a plant; he seemed to fully understand his Roses, as if he had discovered some means of communication with them. Roses should be planted over his grave; a pillar of Crimson Rambler would be a fitting memorial to W. A. Gater. He died a widower, leaving grown-up sons settled in life.—R. D.

Trenching and Digging.

THE importance of a good depth of soil in the cultivation of vegetables is acknowledged by all who grow them, either for exhibition, home use, or for sale. Depth of soil is absolutely indispensable for tap-rooted vegetables, inasmuch as the main or tap-root strikes deeply down in the soil where moisture is most abundant. A good and deep soil provides food and moisture for a longer time in a dry and parching summer than a shallow soil can do. This is an advantage to the cultivator as well as the plant, for growth can proceed without an undue amount of labour in watering. The most that is required during the early stages of a dry time is maintaining the surface open and free from weeds by hoeing.

As ground now becomes vacant there is an opportunity to break it up, deepen it, and enrich it, and by no method can this be so thoroughly and effectually done as by trenching, so as to loosen the soil to a depth of at least 2 feet. In no garden, whether the soil is heavy or light, does trenching come amiss. The operation requires considerable labour, but it may be lessened by adopting the plan of carrying out a portion each year, so that in no one season may the work be beyond the powers of an ordinary cultivator to cope with.

Soils, however, differ in the treatment they should be subjected to

in the matter of trenching. When we speak of trenching, we mean that the soil should not only be moved to a good depth, but that its position should be reversed—that is, the top spit of soil is placed at the bottom, and the bottom spit of soil brought to the top. This acts well, and brings good results when the ground is of uniform quality; but when there is a wide difference between the two layers, it is obvious that to bury the fertile top spit and bring to the surface the hungry subsoil would be folly if the ground were to be cropped the next season. Ground that had not been previously trenched would necessarily be in this condition, therefore to carry out trenching in the full meaning of the term it is essential that the ground should have been bastard or mock trenched. This is a method of moving the soil, but not altering its position, and is always the safer and more effectual plan of dealing with ground that has not received high-class cultivation hitherto.

Bastard trenching is carried out in the following manner:—Take out a trench 2 feet wide along one end of the plot of ground to be dealt with and wheel it to the other, removing the soil to the depth of two spits. If preferable deal with half the piece only; then, instead of wheeling the soil to the opposite end, place it at the same end of the corresponding half, where it will be in readiness to finish, as the trenching proceeds down one half and up the other to the end where the soil is placed. Having removed the two spits depth of soil, and thus excavated the first trench, break up the bottom of this with a spade or fork. Mark out the width of the next trench, and remove the first spit to the same position as the previous two. The second spit of the second trench may be then placed in the bottom of the first. Next mark out the third trench, and the first spit from this may be used to fill up the first. Break up the bottom in every case after the second spit is removed, and place on it a layer of manure or any decomposable vegetable matter. Decayed manure should also be placed between the first and second spit, especially when the ground is of a poor character.

In carrying out true trenching the first trench is dug out in the same way as detailed for bastard trenching; the bottom is broken up, manure introduced, and the top spit of the next trench placed in the bottom and the lower spit on the top, introducing manure or not, between the first and second spit, according to the character of the crop to be grown.

If these methods of trenching are not always practicable the ground, in order to produce good results, ought to be at least dug deeply—that is, as deeply as can be done with an ordinary spade. This is often all that is necessary when the ground has been previously well worked. Heavy and retentive soil should be well broken up and left roughly, so as to become pulverised by the action of rain, frost, snow, and wind acting upon it alternately. Stiff or clayey soil is frequently ridged for the winter. This method presents a more extensive surface to the action of the elements. It may be broken down in spring, when it will be found to crumble and work more readily than if simply dug over and left flat. Very sandy and porous

soil is usually dug and manured in spring, because when manured in autumn the fertilising qualities of the manure are likely to be washed by the winter rains into the subsoil.—E. BARROW.

Quality in Fruit.

ALTHOUGH there has been such a wonderful fruit crop this season, and where properly thinned fruit have apparently finished well, I do not think that, taking the average, the quality is up to the mark. It is too early yet to prophesy as to the keeping qualities, but, unless I am very much mistaken, there will be many complaints on this score before Christmas.

Respecting early Pears, the advantage of growing these on various aspects is not sufficiently taken into account by planters, the consequence being that such varieties as Williams' Bon Chrétien, Souvenir du Congrès, and Beurré de l'Assomption ripen up very quickly in a warm August, and are all over by the middle of September. And it is a well-known fact that the quality of all these is not nearly as good when thus hurried along at the finish as it is when growing in a cool aspect where they develop gradually. The Beurré, for instance, may with care be enjoyed right up to the end of September, and Beurré d'Amanlis at least a week later. Those who only grow Souvenir du Congrès and Williams' Bon Chrétien on a south wall have no idea as to the true character of either, for even when gathered a little green, as they ought to be, from such positions, there is very seldom that richness of flavour and refreshing juiciness that is characteristic of them in their best form.

Speaking of early Pears, can anyone tell me if it is possible to get flavour in Jules Guyot, a variety that, as far as I have been able to discover, is not fit to eat at any time or under any conditions of culture? Marie Louise d'Uccle is not good by any means, but it may be eaten, and occasionally when Marie Louise fails it is very useful, but Jules Guyot is not fit for a costermonger's barrow as I have seen it.

Of early Apples there are far too many of the mealy soft fruits of the Duchess of Oldenburg and Mr. Gladstone class; they are not refreshing or crisp, and are only tolerated on account

of their earliness. A far better Apple is Duchess' Favourite. I have had this on a variety of soils and situations, and know of no other so useful, free bearing, or good. It is a very pretty Apple to look at, and worthy of inclusion in any list. The newer Beauty of Bath and Lady Sudeley leave much to be desired on the score of quality, though both are handsome, and for my own eating I should prefer the old Harvest Apple or the Devonshire Quarrenden to either. But it is a matter of taste, and perhaps other growers will not think with me in respect of these. In this matter I think it would be of the greatest value if experienced growers would give readers of the *Journal of Horticulture* their views in brief.—H. R. RICHARDS.



FIG. 106.—IRIS IBERICA.

Planting Young Peach Trees in Houses.

THE border is the first consideration and must be efficiently drained, the base having an incline to the drain, which should be formed of 3 or 4-inch tiles having proper fall and outlet. In unfavourable soils it may be necessary to concrete the base, otherwise it is not advisable to do so, as moisture then has a better chance of ascending, and the roots will not descend if they are properly nourished in the border. Use clean drainage; first a layer of half bricks or rubble of that size, another of smaller, and a third of the size of road metal; these 9 or 12 inches thick collectively, with a 3-inch layer old mortar rubbish on the top, will make a very substantial foundation. The old mortar rubbish must be free from pieces of wood, be broken up rather fine and passed through a quarter-inch sieve, using that not passing through for drainage and the fine for mixing with the soil.

Good strong loam is the only suitable material, the top 3 or 4 inches of a pasture with its turf being the best, but well worked and rather strong garden soil will grow Peaches and Nectarines well. If the turfy loam incline to be light, add a fourth of clay marl finely divided, preferably dried and pounded; if very strong add a fourth of road scrapings. A cartload of wood ashes may be added to twelve cartloads of loam and about 4 cwt. of crushed half-inch bones. These will supply mineral matter, of which turf is generally deficient. If these cannot be had, use 4 cwt. of basic slag phosphate and 2 cwt. kainit, mixing thoroughly with the loam and quantity named. Lime rubbish may be added to the extent of one-sixth to one-tenth, according to the calcareous nature of the soil or otherwise. If ordinary garden soil be used it will be advisable to add a fifth part of fresh stable manure, freed, as far as possible, from the straw; the materials to be well incorporated and put together firmly when in a fairly dry state or good working condition, 24 inches depth of border being sufficient, but it should be 6 inches deeper to commence with, thus allowing for settling.

For young trees the border need only be 3 feet wide, 4 feet 6 inches width accommodating trees trained two or three years to walls, while in any case the border need only be a foot more in breadth than the spread of the roots to begin with. Plant rather high, as the soil will settle and the surface dressings will raise the soil correspondingly. The earlier the trees are planted after the leaves give indications of falling the better, as provision is made for the emission of fresh rootlets at once. Supply water after planting, allow it to soak in, and when dry enough firm well and mulch as far from the stem outwards as the roots extend or a little more, with a couple of inches thickness of short, rather fresh, but not rank, manure. Though it is desirable to plant the trees inside the roots should have the run of outside borders, but for very early forcing the roots are best confined inside. In the latter case the roof-lights of the house should be movable, so that they can be taken off to prevent over-maturity of the buds and insure the thorough moistening of the border by the late summer and autumn rains.

There are now so many varieties that it is difficult to make selections. For very early forcing:—Alexander or Waterloo, and Early Rivers Peaches; Cardinal and Early Rivers Nectarines. Second early:—Hale's Early, Royal George or Stirling Castle, or Dymond Peaches; Lord Napier and Stanwick Elruge Nectarines. Midseason:—Grosse Mignonne, Alexandra (Noblesse), Goshawk, and Bellegarde Peaches; Humboldt, Dryden, Violette Hâtive, and Byron Nectarines. Late houses: Barrington, Princess of Wales, Gladstone, Walburton Admirable, Sea Eagle, and Golden Eagle Peaches; Pineapple, Newton, Spencer, Milton, and Victoria Nectarines. Unheated houses or wall cases to give a long succession of fruit:—Waterloo or Early Louise, Hale's Early, Dr. Hogg, Rivers' Early York, Alexandra (Noblesse) or Goshawk, Royal George or Stirling Castle, Grosse Mignonne or Dymond, Bellegarde, Barrington, Princess of Wales, Gladstone or Sea Eagle, Walburton Admirable or Golden Eagle Peaches; Cardinal, Rivers' Early, Lord Napier, Stanwick Elruge, Byron, Dryden, Pineapple, and Victoria Nectarines. With those, or some of them, in their order of naming from first to last a supply of fruit may be had from early in July to the middle of October or later, and all of the highest excellence both in appearance and quality.—G. A.

Women as Gardeners.—It was my fortune not so very long since to make a call at the Lady Warwick Hostel, Reading; and also to be shown over the garden and such appliances as existed for the practical instruction of the young lady students in gardening. That there was the most earnest desire to instruct on the one hand, and a fair desire to learn on the other, I can have no doubt. But I saw the ladies' garden plots—some in process of being trenched, some dug, and so on, and my practical ideas as to how work should be done somewhat revolted. It was work such as I would not have tolerated at the hands of men for one moment. The packing shed and potting shed, as also the principal greenhouse, were in a state that caused me mentally to groan. I could not, seeing what was being attempted, exhibit myself as a harsh critic; but I could only realise how difficult, if not indeed hopeless, is it to endeavour to make practical, methodical, tidy gardeners out of irresponsible women.—A. D.

Thladiantha dubia.

THIS plant was exhibited by Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nursery, Chelsea, at the meeting of the Royal Horticultural Society, held in the Drill Hall on September 25th. As our readers will observe from the illustration (fig. 107), it is a member of the Cucurbit tribe, and it is particularly ornamental. The shape of the slightly hairy fruit is excellently shown, and some idea of its striking beauty may be gathered when we say that the colour is bright scarlet. The plant is perfectly hardy, and should grow quickly into popularity for growing on arches, trellises, pergolas, and other erections of a similar character. It was originally discovered in Northern China, but was subsequently found on the higher hills of Northern India. The examples from which our drawing was taken were grown at Messrs. Veitch's Coombe Wood Nursery, where the plant is quite hardy.

Notes on Figs Under Glass.

THE trees intended for early forcing in pots should, if they have been placed in the open air, be taken under cover to protect them from frost and the cold autumnal rains. If not repotted, top-dressed, or had the drainage rectified, the needful operations must be attended to at once. Place the trees in a rather dry, well-ventilated house, where they will be cool, yet not subjected to more than a few degrees of frost. Any thinning of crowded and shortening of attenuated growths must be performed without delay, remembering that the fruit is produced on the well-matured shoots, and mainly near their extremities. Wash the trees carefully with soft soap (3 ozs. to a gallon), and water in a tepid state, using a brush, and reaching well into the angles of the shoots and crevices of the bark. The brush must be sufficiently stiff to dislodge scale, using it carefully where the embryonic Figs are located, as the least scratch will show itself as a blemish on the developed fruit. After judicious, as well as efficient washing, the trees may be dressed with an insecticide.

In order to force Fig trees in pots successfully, a light airy house, well heated, facing the south, and having beds containing fermenting materials to afford a bottom heat to stimulate the roots and afford a constant supply of nutritive matter, is necessary. It is also important to select varieties that produce first crop Figs with certainty, or more so than many. Early Violet and St. John's produce small fruit, black and greenish-white respectively, and are the earliest to ripen. Pingo de Mel possesses an excellent habit, the fruit being nearly as large as Brown Turkey, and of excellent flavour. For general purposes Brown Turkey is the best, producing large fruit, well flavoured, and the trees give good returns, both in the first and second crops.

Planted-out Fig trees that have been in bearing since the early part of June are now commencing to rest, and may be divested of the old foliage as soon as it parts freely from the wood. If planted in inside borders, and the growth is considered too strong, the present is a favourable time for root-pruning, an operation that has a magical effect on over-luxuriant Fig trees, and is very desirable where the space is limited. All the inert soil should be cleared away, strong roots cut out, or shortened to where fibres proceed, and the drainage examined, and if defective be rectified. The roots may then be relaid in fresh compost, firmly rammed and mulched. The soil needs to be moderately moist when lifting operations are performed, then it will so remain, or not become parchingly dry, till the time of starting. The young shoots that have been allowed to grow up with their points to the glass will be thickly studded with embryo fruits, which must be carefully protected from injury when the house and trees are cleansed, as well as from the effects of sudden and severe frosts, by being unfastened and drawn down below the trellis until the time arrives for thinning out the branches that have reached the extremity of the trellis. This will facilitate lifting and root-pruning operations.

The best soil for Figs is a calcareous loam, which naturally contains nodules of limestone and particles of grit or small stones. Good friable loam, however, with a liberal addition of lime rubble, broken bricks, or charred earth and road scrapings will grow Figs well, the chief points being thorough drainage, firm soil, and restricted root space. Stimulants in the form of solid manure or liquid, should always be supplied to the surface when the trees are growing.

In late Fig houses all root-pruning of the trees should be finished as soon as the leaves give indications of falling, bearing in mind that strong growing varieties can only be kept fruitful and manageable by limiting the rooting area proportionately to the extent of the trellis space. The root space need not exceed half that of the trellis, as the main points are to secure sturdy growths studded with fruit, and then feeding proportionately to the crop. When the leaves are down, or until they are, the house should be freely ventilated, especially in favourable weather and at night, except when frost prevails.—GROWER.

Preparations for Planting.

IN order to have the soil in the best condition at the time of planting fruit trees immediate attention should be given to its preparation. The most important operation is to deepen it so that the roots can have a medium of 2 feet in depth in which to ramify, draw support from, and extend sufficiently to hold the trees or bushes firmly in position. The best method to follow in carrying out this work is to trench to the depth above named. The bottom spit of soil may be partially, if not wholly, mixed with the top. Should the two spits be of uniform quality then entire intermixing is beneficial, but when, as is frequently the case, it is the reverse, and the bottom spit is poor and unfitted for the entry of roots, it should be well broken up and allowed to remain in its original position. Such soil being poor will also be devoid of humus. This may be applied by working in some decomposed manure, though the application of manure is not advisable when the ground is generally fertile and grows well the various kinds of deep rooted and soil exhausting vegetables.

Fruit trees during the early years of their existence do not want rich soil, as it causes rank, coarse, and sappy growth. Deepening the soil, however rich or however poor, always improves it. It sweetens and aerates the material when overburdened with humic matter, and renders ground which is deficient in plant food capable of receiving and retaining elements which enrich it. Moisture from above and below is more readily absorbed, this usually carrying valuable plant food with it.

When trees or bushes are to be planted in plots or positions of any size it is desirable to cultivate deeply the whole of the soil. In isolated positions stations for the trees must be prepared, 6 to 8 feet square, according to the soil the same thorough and careful treatment in deep cultivation. For planting against walls or fences the width of ground cultivated must depend on the ultimate size and height of the trees. Three feet may be the minimum width, and this for cordons, while for large fan-shaped trees extending on the face of high walls 10 or 12 feet in height, the border will require to be for free growing trees 10 feet in width.

Medium-textured soils should be chosen for stone fruits generally, those preferably containing some calcareous matter, though this can be added by mixing in old lime or mortar rubbish, and in addition the soil should be made firm. Heavier soil is suitable for Apples and Pears. Rich soil, it should be noted, ought to be prepared for Raspberries, not limiting the use of manure in their case, while for Strawberries also, as well as Gooseberries and Currants, liberally enrich the ground at the time of preparing the sites.

Well-drained land is in all cases necessary for fruit, that which is naturally drained and free from stagnant moisture being much better than a water-logged soil. This, however, can be made suitable by a system of drainage which will carry surplus water away, or by planting the trees on raised mounds at least a foot above the ordinary level.

The greatest advantage in carrying out the preparations early lies in the fact that the newly moved soil has time to become consolidated for planting, and also that it is ready for the trees when the time arrives for planting, and a favourable opportunity presents itself to

place them in their positions. Small, healthy, vigorous trees are the best, as they are the easiest to plant and the surest to succeed. Large specimens have the disadvantage of not being readily moved, and less certain of becoming established quickly unless they are well furnished with fibrous roots, and these require extraordinary care in moving in order to prevent them becoming dry and shrivelled. Hence it is the most desirable upon the whole to select and plant trees and bushes of the ordinary planting size.—E. D. S.

Making New Raspberry Plantations.

It is not an infrequent custom for Raspberries to be allowed to remain on the same ground for an indefinite period, and there are cases,

certainly, where the course is perfectly justified, because of the results obtained. There are instances, however, where a change of site may be made the means of changing scanty crops into plentiful ones, simply by replanting the old, or a newly acquired stock on fresh land. It is not uncommon to find the rows of Raspberries very uneven and irregular; this is because there was not a full or free sucker growth from which to choose those that would form the future fruiting cane. When the sucker shoots are sparse and weak the best must of necessity be retained for future gatherings, even if they have rambed away from the original rows; hence comes the undesirable irregularity of the rows, and the unworkmanlike aspect presented. Raspberries are an annual crop for which there is always a demand, and I cannot say that in the majority of gardens the demands are fully met, and this is one reason why they are left alone, and new plantations go unmade.

Where an investment can be made in new canes, not much trouble presents itself of changing the site from one part of the garden to another, but as this is not always allowed other means must be devised. The removal of a portion of the existing bed means a sacrifice of summer fruit in proportion

to the extent of disturbance. If the work is taken in hand and eked out in small proportions the difference is not felt, and the loss which is felt in one season is more than compensated for in the next, when the newly planted ones come into bearing.

The early autumn is the very best time for the removal of Raspberries, and while there is yet some foliage remaining on the young canes. By carrying it out thus early roots are set in motion, which enable them to become at once partially re-established. The present dry weather, too, is all in favour of removal, for planted at once they would naturally benefit by the rain when it does come. At the time of writing the ground is very dry and hard, but this is a difficulty that is easily surmounted when necessary. Early planting insures an early root hold, and this in turn brings with it an early first crop.

During the past summer I was enabled to gather some very fine berries from canes planted in the previous autumn. These, it may be said, were shortened to within about 15 inches to 18 inches from the ground, Strong suckers sprang up from the stools in spring, which give every indication of a heavy crop next year. From these young and healthy rows one may easily obtain new stock for further additions, and if only



FIG. 107.—THELADIANTHA DUBIA.

small suckers are furnished these soon develop, and indeed they are infinitely better than coarse grown canes for planting.

There are several good varieties to be had, but to my mind Superlative is the best. I had rows of these that, this past summer, required extra support to be given to bear up the extraordinary weight of berries. An opposite quarter of ground which had been occupied for many years gave such poor crops that it was absolutely essential that some repairs should be brought about, and by carrying out this gradual removal the partial loss is unfelt at first, but the annexation of the old and new combine to make the daily gatherings most favourably appreciated. My present stock is already removed and replanted that can be spared this year, and it only needs an early soaking of rain to set up a new root action, which insures their partial establishment before winter sets in.—W. S., *Rood Ashton*.

Royal Horticultural Society.

Drill Hall, October 23rd.

THERE was an exceptionally fine display in the Drill Hall on Tuesday, practically the whole of the space being fully occupied. The presence of the Chrysanthemum season was demonstrated by many exhibits of collections and of novelties, the latter comprising several of more than average merit. Lily of the Valley and Spiræas from Mr. Rochford were snperb, as also were Cannas from Cannell's. Neither fruits, vegetables, nor Orchids were very largely shown, but good quality was conspicuous in several instances.

Fruit Committee.

Present: Geo. Bunyard, Esq. (in the chair); with the Rev. W. Wilks, and Messrs. H. Esling, J. H. Veitch, A. H. Pearson, M. Gleeson, W. Pope, A. Dean, S. Mortimer, C. Herrin, W. Bates, H. Markham, G. Wythes, G. Woodward, J. Smith, F. Q. Lane, G. Reynolds, G. Norman, J. Cheal, and H. Somers Rivers.

The most conspicuous exhibit in the fruit section was a collection of Pears from Messrs. G. Bunyard & Co., Maidstone, in which seventy-five varieties were represented. Some of these were remarkable for their size, and others for richness of colour. Amongst the most noticeable may be included Maréchal de Cour, Beurré Superfin, Doyenné du Comice, Conference, Fondante de Thirriott, Beurré Fouqueray, Dnrondeau, Pitmaston Duchess, Josephine de Malines, Louise Bonne de Jersey, Seckle, Easter Beurré, Beurré Rance, Beurré Hardy, Beurré Alexander Lucas, Vicar of Winkfield, Princess, Forelle, Olivier des Serres, Nouvelle Fulvie, and Winter Nelis. Three fruits of Uvedale's St. Germain on one spur weighed over 5 lbs., the heaviest being 1 lb. 10 ozs. (silver-gilt Knightian medal).

Messrs. J. Cheal & Sons, Crawley, sent a collection of Apples with a new one named Cowan's Victoria, a fruit that somewhat resembles a small, very highly coloured Cox's Orange Pippin. The same firm sent Apple Nancy. Mr. W. A. Cook, gardener to Major Heneage, V.C., Compton Basset, contributed Pea Carter's Michaelmas. The Rev. W. Wilks, Shirley, showed Brassica sinensis, and Mr. T. R. Cuckney, Gravesend, excellent Plums Coe's Golden Drop. Mr. W. Strugnell, The Gardens, Rood Ashton, Trowbridge, contributed grand examples of Apple Rambour Franc, and Mr. C. C. Tudway, The Cedars, Wells, sent Pear Glastonbury. Mr. W. Tayler, Hampton, sent Grape Reine Olga.

Mr. A. Russell, gardener to W. Ronpell, Esq., Harvey Lodge, Roupell Park, sent two baskets of Apples, grown within five miles of Charing Cross. Cox's Orange Pippin was in grand form, as also was Newton Wonder. In both cases the fruits were from bushes on the Paradise stock, and the fruits had excellence of colour with size. Several growers sent exhibits of fruit, but they were not of sufficient importance to warrant enumeration.

A collection of Onions, comprising about 3½ dozen varieties; these were contributed as of typical size for keeping purposes. Particularly good were Giant Zittau, Danvers' Yellow, James' Keeping, Brown Spanish, Up-to-Date (an excellent variety of good weight), Lord Keeper, Brown Globe, Bedfordshire Champy, Trebons, Blood Red, Golden Ball, and Ailsa Craig, with several varieties for pickling purposes (silver Knightian medal). Messrs. Pearce & Co., London, Ontario; and Osman & Co., Iowa, U.S.A.; and Dr. Bonavia, Worthing, contributed Gourds.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Drury, R. Dean, G. Reuthe, J. Hudson, H. B. May, J. Jennings, J. F. McLeod, W. Howe, J. D. Pawle, G. Gordon, C. E. Shea, J. Walker, H. J. Jones, W. James, E. T. Cook, E. H. Jenkins, G. Paul, and J. Fraser.

Messrs. H. Cannell & Sons, Swanley, had a grand exhibit of Cannas in pots. Such a display would be extremely welcome in most conservatories at the present time, the flowers being bright and fresh looking, and the foliage was also in a similar condition. Some of the most beautiful varieties were Mdle. Berat, Duchess of Marlborough, Buttercup, A. Billard, Queen Charlotte, Madame Pichon, and Paul Lorenz. A remarkable exhibit was that from Mr. T. Rochford, Turnford Hall

Nurseries, Broxbourne, who staged a beautiful display of Lily of the Valley, Spiræa japonica, Lilium Harrisii, and Azalea mollis. Needless to say, the whole were produced from retarded plants and bulbs; but they could not be produced better in the month of March, and the exhibit clearly demonstrated the perfection to which this new gardening art has succeeded.

Mr. H. B. May, Dysons Lane Nurseries, Edmonton, displayed some grand plants of Begonia Gloire de Lorraine, arranged alternately with Adiantum Farleyense, forming a very pretty bank. Messrs. Peed and Son, West Norwood, staged a table of seedling Begonia semperflorens in a variety of colours. Roses of the Tea section came from Mr. Geo. Prince, Oxford, who had numbers of grand Maman Cochet and its white form; for the time of year the blooms were truly remarkable, being large, clean, and bright. Messrs. W. Cutbush & Son, Highgate, contributed a mixed display of plants, at the same time the well berried plants of Pernettyas and Skimmias formed the chief features, the best being P. mucronata lilacina, P. m. purpurea, P. m. alba, and P. m. elegans.

Messrs. Jas. Veitch & Sons, Ltd., sent a grand specimen of Gynierium argenteum pumilum, and a splendid clump of Eulalia japonica zebrina, also a beautiful box of Rhododendron hybrids of excellent colour. A splendid strain of Streptocarpus hybrids was also staged, showing a wonderful variety of colouring; the box was much admired. Messrs. Paul & Son, Cheshunt, staged plants and cut blooms of a new Hybrid Tea, Lady Battersea, a cerisiered of good form. Mr. G. W. Piper, Uckfield, showed a stand of his well known Sunrise Rose, also the much boomed Liberty, which appears to be a first class variety.

Chrysanthemums.

Chrysanthemums formed the chief feature of the floral display, and numerous exhibitors staged fine displays. Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, arranged a display of decorative varieties on large bamboo stands, and the front of the exhibit was composed of stands of exhibition flowers, good blooms of Mr. L. Remy, Miss Alice Byron, Lady Phillips, Miss L. Cheeseman, W. R. Church, Lord Roberts, Ernest Bettsworth, Matthew Smith, Chas. Longley, and Mrs. Coombs, while the best decorative varieties were Mychett Beauty, Mednsa, Edward Stacey, and a few good singles.

Mr. W. J. Godfrey, Exmouth, had a fine exhibit, consisting of a few decorative varieties in pots, while the bulk was composed of specimen flowers, which were well arranged with foliage plants and cut Asparagus Sprengeri. Some of the most noteworthy of the seedlings were Sensation, Attraction, Godfrey's Masterpiece, Loveliness, and Dazzler, while J. R. Upton, R. Hooper Pearson, Queen of the Exe, Wonderful, Reginald Godfrey, and Mrs. Coombs were the chief of the older varieties; a very pleasing exhibit.

Messrs. Jas. Veitch & Sons, Ltd., Chelsea, arranged a large semi-circular group at the entrance of the hall of plants in pots. Many of the varieties were in fine form. Some of the most conspicuous were Sir H. Kitchener, Reginald Godfrey, Soleil d'Octobre, R. Hooper Pearson, Oceano, Rayonante, Jas. Bidecove, William Towers, Henry Weeks, and Phœbus. The Bamboos, Palms, and Ferns employed made a pleasing finish to the group.

A grand group was staged by Mr. R. C. Pulling, Monkham's Nurseries, Woodford. The Chrysanthemums employed were good, while the Crotons used in the arrangement were quite brilliant in their colouring, and the arrangement left little to be desired. A few of the best Chrysanthemums were Mrs. A. H. Hall, Madame Gustav Henry, Annie Prevost, Henry Weeks, Pride of Madford, and George Davis.

From Mr. N. Davis, Framfield, Sussex, came one of the typical displays for which he is so famous; most of the flowers were arranged in huge vases and baskets, and in every case suitable foliage with autumnal tints was employed. The huge vases in the centre were filled with Mrs. Coombs, Phœbus, and Miss Alice Byron. Mrs. Barkley, of wonderful colour, pretty baskets of Mdle. Elise Jordan, good specimen flowers of Mrs. White Popham, George Davis, Mrs. J. Bryant, and President Nonin were the chief features of the display.

A few seedlings were staged by Mr. M. Silsbury, Shanklin, Isle of Wight, the best being Mr. J. I. Thornycroft, a yellow reflexed Japanese, shaded with orange and red. Mr. C. Snook, gardener to Mrs. Scaramanga, Westhill, Isle of Wight, also staged two new seedlings. Messrs. Barr and Sons, Covent Garden, had a large exhibit of early flowering varieties, arranged with a few other hardy flowers. In such a large collection as that staged on this occasion only a few of the most striking could be named, and a few of the best were Maud Pitcher, Crimson Pride, Harvest Home, Ruby King, Lyon, Mrs. A. J. Parker, Bronze Prince, and Early Blush.

Two splendid groups of Soleil d'Octobre and Madame Gustav Henry were arranged by Mr. R. Drost, Kew Nursery, Richmond. The yellow variety, although only just over 2 feet high, was carrying about ten well developed flowers on each plant, while all the foliage was retained. Both groups were a triumph to the market grower's art. Messrs. H. Cannell & Sons, Swanley, also staged blooms of Princess Alice de Monaco, Chas. Ayres, Blanda, and Sydney Brunning amongst other varieties. From Mr. W. Seward, Hanwell, came a quantity of new seedling Japanese varieties. The best or most promising were Mr. W. H. Webb, Mr. S. Fryett, Mr. J. Cntts, and Mrs. Emma Fox.

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, de Barri Crawshaw, H. Ballantine, H. Little, J. T. Gabriel, H. J. Chapman, W. H. Young, J. W. Potter, H. A. Tracy, T. W. Bond, E. Hill, J. Douglas, T. Rochford, W. Cobb, J. Colman, J. G. Fowler, and H. M. Pollett.

Messrs. Heath & Son, Cheltenham, sent *Dendrobium formosum* giganteum and *Vanda cœrulea*, both in fine form. Messrs. F. Sander and Co., St. Albans, were represented by a small collection of Orchids, including one or two of conspicuous merit. Mr. W. H. Young, gardener to Sir F. Wigan, Bart., Clare Lawn, East Sheen, sent a small but very beautiful collection of Orchids, in which *Dendrobium formosum*, *D. Leeannm atro-purpureum*, *Lælia pumila*, *Lælio-Cattleya* Henry Greenwood, L.-C. Maroni, and *Stenoglottis longifolia*, were very conspicuous (silver Flora medal). Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Camberwell, showed a small group of *Cypripediums*, including several of decided merit (silver Banksian medal).

Messrs. H. Low & Co., Bush Hill Park, staged miscellaneous Orchids, including *Cattleyas*, *Oncidium*s, *Dendrobium*s, and *Lælias* in variety and excellent quality. Messrs. J. Veitch & Sons sent a superb plant of *Cattleya Bowringiana* Veitch's variety; the flowers were of exceptionally brilliant colour. Messrs. Grimsdale, Uxbridge; Charlesworth and Co., T. Rochford, C. H. Feeling, H. Little, Jules Hye, and W. W. Appleton also sent small exhibits of very interesting Orchids.

Certificates and Awards of Merit.

Chrysanthemum J. R. Upton (W. J. Upton).—A superb yellow with long curling florets (award of merit).

Chrysanthemum Mrs. F. G. Smith, jun. (W. J. Godfrey).—A very deep yellow with a pronounced orange suffusion; it is an incurved Japanese (award of merit).

Chrysanthemum Mrs. Coombs (W. J. Godfrey).—A soft rose coloured reflexed Japanese of fine form (award of merit).

Chrysanthemum Earl of Arran (J. Perkins).—A canary yellow Japanese with long curling florets (award of merit).

Chrysanthemum Mr. S. Fryett (W. Seward).—A reflexed Japanese of considerable promise. The colour is purple amaranth (award of merit).

Chrysanthemum Mrs. Emma Fox (W. Seward).—A splendid reflexed Jap; the colour dull, dark brick red (award of merit).

Chrysanthemum Chas. Longley (W. Wells).—A reflexed Japanese of a bright amaranth shade with a silver reverse (award of merit).

Chrysanthemum Matthew Russell (H. J. Jones and W. J. Godfrey).—A true incurved of good type. The colour is yellow bronze (award of merit).

Chrysanthemum Master E. Seymour (J. Perkins).—An incurved Jap of first size. The inner colour is rich claret, and the outer pale buff (award of merit).

Chrysanthemum Lily Mountford (M. Gleeson).—An immense reflexed Japanese with very broad florets. The colour is deep rose, paler at the tips (award of merit).

Veronica Diamant (J. Hudson).—A handsome form. The colour is reddish purple (award of merit).

Cypripedium Vidor (H. J. Chapman).—This is from a cross between Chas. Calham and Harrisianum superbum. The petals are bright claret, and the pouch is paler in shade. The dorsal sepal claret and green, margined white (award of merit).

Dendrobium Leeannm atro-purpureum (W. H. Young).—This is a splendid variety of which the colour is accurately described in the varietal name (award of merit).

Melon Royalty (H. Pettigrew).—A handsomely netted yellow skinned Melon of large size. The thick flesh is quite white and of excellent flavour (award of merit).

Odontoglossum Maud Rochford (T. Rochford).—This is a chaste variety of crispum. The flowers are small but of perfect shape, and have brown spots on the white ground (award of merit).

Pear Glastonbury (C. C. Tudway).—A finely shaped dark cinnamon coloured Pear of excellent flavour, of which we hope to give an illustration and a full description in a future issue (first-class certificate).

Rose Lady Battersea (Paul & Son).—A grand hybrid Rose of perfect form; the colour is very rich cerise red (award of merit).

Sophro-Lælia Eros (Charlesworth & Co.).—A bigeneric hybrid from *Lælio-Cattleya elegans* Turneri and *Sophranitis grandiflora*. The colour is deep crimson (first-class certificate).

Medals: Floral Committee.

Silver-gilt Flora medal to N. Davis; silver-gilt Banksian medals, Messrs. Pulling, T. Rochford, J. Veitch & Sons; silver Flora medals to Messrs. W. J. Godfrey, G. Prince, R. Drost, H. B. May, and H. Cannell & Sons; bronze Flora medals to Messrs. Cutbush & Sons and Barr & Sons; silver Banksian medal to Messrs. W. Wells & Co.



Fruit Forcing.

Peaches and Nectarines.—Earliest Forced House.—The trees have been at rest some time, the roof-lights removed, the house thoroughly cleansed, the trees untied, pruned, dressed with an approved advertised insecticide, re-arranged, and tied on the trellis, the border surface dressed, and all prepared for a start when the time arrives. Nothing further is required. If, however, the work has not been done, no further delay should be allowed. Where the roof-lights have not been removed care must be taken not to allow the soil to become too dry at the roots of the trees, as this is often a cause of the blossom buds falling. If the trees are weakly, or with a great quantity of bloom buds, it is not a bad plan, indeed we have found it excellent, to remove the buds on the lower sides of the shoots by drawing a gloved hand reverse way of the growths, following with a supply of liquid manure, or giving a top-dressing of the advertised fertilisers after properly moistening the soil down to the drainage and washing in moderately. This will greatly benefit the trees in swelling their buds at the proper time, and aid in the development of a strong blossom.

In case the border is not satisfactory the surface soil should be removed down to the roots, not disturbing them materially, yet not losing the opportunity of bringing any that can be nearer the surface or laying them in fresh material, otherwise removing the soil from amongst them and supplying fresh loam, not covering the uppermost roots more than 2 or 3 inches. If the loam be very turfy add a fourth of clay marl dried and pounded, with about a bushel of wood ashes to every cartload of soil, or 7 lbs. of basic oinder phosphate and 3½ lbs. of kainit, thoroughly incorporated, making it firm and giving a good watering. Borders that are rich in humus through heavy dressings of manure will be benefited by dressing with air-slaked lime, dry and floury, 1 peck per rod being a suitable quantity, mixing with the surface soil as deeply as practicable without disturbing the roots to any great extent, omitting the top-dressing before named.

Second Early Forced House.—The trees being leafless should be pruned after untying, dressed and re-arranged on the trellis. In pruning early forced trees it is not advisable to cut away much wood, but where weakly and crowded it should be judiciously thinned, removing any useless parts that have escaped the thinning after the fruit was gathered, and any unripened growth may be cut back to a triple bud, making sure that the central bud is a wood bud or to a growth bud on well ripened wood. Shoots, however, that are well ripened need not be shortened under any circumstances, having usually a few wood buds at the base and one at the extremity, the rest being blossom buds chiefly. It is, however, a mistake to retain too much wood, which weakens the trees in flowering, and there is not space to train in the young growths without crowding.

Succession Houses—The trees will be casting their leaves, which may be collected as they fall and be burned where the trees have been infested with fungoid and insect pests. The leaves, however, must not be forcibly removed, but a gentle shaking, or a very light brushing over with a broom, will bring down any that are matured. When the foliage is down and there being any scale syringe the trees and house with water at a temperature of 140°. This will make quick work of all the insects it reaches, and even cause their eggs to addle, for all succumb to sudden parboiling, caustic and corrosive substances; even fungi resting spores cannot resist such influences. Then cleanse the house and trees, walls, and borders—everything, for cleanliness is, after all is said, combined with proper management and suitable nutrition, the best preventive and safeguard against fungoid and insect diseases. If the trees are too vigorous, and do not set and stone the fruit satisfactorily, they should be lifted, which is preferably effected whilst trees have some leaves on the last ripened wood, keeping the lights over the trees until the leaves have fallen. If the roof-lights are not movable admit air to the fullest extent, and be careful to prevent the soil becoming dry.

Late Houses.—In the southern parts of the country, and in cold districts where the trees are assisted in the spring, and as required during growth in cold periods, the wood has matured well, there being nothing required but to admit air freely; but when green leaves hang long it is an indication of unripe wood, and the roof-lights must not be removed for some time longer, and if this condition prevails generally the trees should be lifted carefully and root-pruned. If this is performed judiciously it will not prejudice next year's crop, but it must be done when greater part of the leaves have fallen, yet with some on the laterals or other immature growths. The principal wood, however, must be firm, otherwise it will shrivel, and there must not be any loss from evaporation, but by keeping the house rather close, syringing the trees occasionally, and shading the house if bright weather prevail, no possible harm can follow. Under ordinary circumstances of weather at this time of year

Lewisham's New Park.—One thousand inhabitants of Hither Green have petitioned the Lewisham Board of Works to secure the estate of Mountsfield, now for sale, as a new public park. The Board, it is understood, is disposed to make the purchase if the price is reasonable.

those precautions are not necessary. It is only when the trees are gross and the wood unripe that the careful treatment is necessary, and it is for such cases that lifting is particularly desirable. In the case of young trees it will suffice to take out a trench one-third the distance from the stem the trees cover of trellis, and down so as to cut off all roots down to the drainage, leaving the trench open for a fortnight, not allowing the soil in the radius to become so dry as to distress the foliage to a very severe degree of flagging, and then the trench may be filled in firmly. With this salutary check to the growth the energies of the trees will be concentrated on the maturing of the growth and buds, also storing matter so essential for securing a good set and satisfactory stoning of the fruit.

Unheated Houses.—Thin the wood, if necessary, to admit light freely to the growths, and ventilate to the fullest extent. This assists the wood to ripen and store it with matter for the coming season. In case of over-luxuriance, or a tendency to late growth, lift the trees when the wood becomes firm and while some of the foliage is upon the trees. This, with laying the roots near the surface in firm soil, is the surest remedy for trees that fail to set and stone full crops of fruit. After the leaves fall the roof-lights may be removed, thus securing complete rest instead of alternating excitement and check, as trees under glass are subjected to.

THE BEE-KEEPER.

Review of the Past Season.

It may be of interest to bee-keepers in various parts of the country to compare notes with regard to the late honey harvest. In many districts it has been most disappointing. A few bee-keepers have obtained a fair average surplus. This was the result of having stocks strong early in the season so that they were enabled to store freely from the early fruit blossoms, which were somewhat later than usual, as were also the Hawthorns, which flowered most profusely; others, again, did well from the Limes. Good samples of White Clover honey are very scarce. The weather experienced in this district (South Yorkshire) was most disappointing from a bee-keeper's point of view. The bees did not winter well, and on the whole they required close attention throughout the spring. High winds and cold showers prevailed until well into May. Then bright sunshine and a higher temperature had the desired effect. Stocks increased at a rapid rate, but they were quite ten days later than usual. The vegetation being also late there was every prospect of a good honey harvest until the middle of June. From then till the middle of July no work was done by the bees, as the weather was dull and showery, and a very low temperature prevailed. Bright hot weather then set in, but it was too late to benefit the majority of bee-keepers.

In our own apiary it has been the worst season experienced since 1898. This is also the experience of others. A bee-keeper whose apiary is about fifty miles due east from our own, writes:—"The past season has been a most disastrous one for bee-keepers in this district, the worst we have had for twelve years. Honey is very scarce owing to the wet cold weather. I am now feeding up my bees for winter, and have already given them over twelve stones of sugar." Another, whose apiary is larger than the above, has given his bees nearly five hundredweight of sugar. Another bee-keeper living fifty miles north, writes:—"I have taken fifty five sections from one colony. This stock was very strong early in the spring, although it received the same treatment as my other stocks which yielded nothing. It was ready for supering early in May, and the bulk of the honey was obtained before the middle of June." The above corroborates what we have before stated, that however carefully an apiary may be managed, there will always be a difference in the strength of the various colonies during the early spring months.

In some of the southern counties the quality of the honey gathered this season has been excellent, and the surplus larger than in the midland and northern counties. This was owing to the fact that the White Clover followed closely on the fruit blossom and other flowers before the wet weather set in. Heather honey has been plentiful and of first-class quality. The Heather bloomed freely and perfect weather prevailed, but the nights being cold the bees did not store as large a surplus as they have sometimes done in previous years.—AN ENGLISH BEE-KEEPER.

Trade Catalogues Received.

J. Cheal & Sons, Crawley.—*Trees and Shrubs.*

W. Clibran & Son, Altrincham.—*Trees and Shrubs*

W. Tayler, Hampton, Middlesex.—*Roses and Fruits.*



*. All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Oranges not Fruiting (J. M. D.).—Excessive root action in too fertile soil promotes an exuberance of growth that is the reverse of conducive to fruitfulness. Root-pruning would arrest such growth, but would not, in the absence of full light for maturing it, of necessity result in fruitfulness. The Orange trees would be more likely to produce fruit if grown in tubs and placed in a sunny position in the open air in July, unless the structure in which they are grown is very light, in which case the removal would not be necessary.

Luxuriant Peach Tree (P. R. M.).—The growths ought to have been thinned long ago, and overcrowding prevented; then, in all probability, fruit buds would have formed on the shoots that would have been exposed to the influence of light and air. Take out the most luxuriant now, retaining those of moderate strength and short-jointed in character, with any that have triple buds; also dig up the trees at once, cutting off all strong roots, then plant or pot firmly in a mixture of loam and six parts of crushed mortar rubbish from an old building.

Wintering Tuberous-rooted Begonias (B. C. G.).—Tuberous Begonias may be wintered successfully by either of the methods you mention, but perhaps the latter is the better of the two. Moderately dry cocoanut fibre may be used as well as sand, and the boxes containing the tubers must be placed in some dry shed, cellar, room, or greenhouse, where the tubers will neither be excited by heat nor injured by frost or damp. In places where the temperature ranges from 40° to 50° they will rest completely, remaining firm and plump, and will start strongly into growth again in the spring.

American Blackberries (S. P. H.).—These should be treated as is usually advised for Raspberries in planting and pruning. Cut off any weakly stems and retain the others shortened like the Raspberries. Do not attempt training the subsequent growth in an erect formal manner, for the long vigorous branches may be trained horizontally or diagonally, as appears best adapted to retain it unpruned. We have a long row, with the growth interlaced into a perfect thicket, that is wonderfully prolific of fine fruit. A novel, useful, and attractive feature may easily be added to a garden by planting them 3 or 4 feet apart along the sides of a path, and training them overhead upon arches; the long shoots may then be taken at will from arch to arch, connecting the whole into a pretty arcade. This plan will commend itself in all gardens where economy of space is important.

Propagating Mulberries (T. W. J.).—The cuttings may be made in either autumn or spring. If made in autumn, or even in spring, a portion of the preceding or two-year-old wood should be taken with each, and from shoots that are well matured. They should be planted about 6 inches apart in rows a foot asunder in good light soil, making it firm about the cuttings, and leaving only one or two eyes or buds above ground. They are best in a shady, sheltered situation, and should be protected during the winter. The cuttings should be taken from the upper part of the trees. Bearing branches root with facility. They should be inserted to a depth of 18 inches to 2 feet, and be supported with a stake if necessary. The side branches should be shortened back a little, and in subsequent years the lower branches removed, but gradually, so as to form a stem of the height required. Strong branches or limbs, duly attended to with water in summer, will form bearing trees in two or three years.

Maggot-eaten Apple (Amateur).—The Apple has been eaten into by the larva or caterpillar of the codlin moth, *Carpocapsa pomonella*, but this appears to have come to grief before reaching the pips of the fruit, or has made a mistake and tunnelled its way out and not entered again. Such cases are not uncommon, the consequence being that the fruit grows most on the unaffected side, that having been burrowed not swelling nearly so fast and well, hence is depressed, and the work of retarding growth is promoted by a fungus which takes possession of the tunnel, and, though not exactly a parasite, feeds on the flesh along it. The fungus is confined to mycelial hyphae, so its identity cannot be determined, though it is common to the eye of many Apples, and apparently follows or takes to tissues already injured. To prevent attack by the caterpillars of the codlin moth, the trees should be sprayed as soon as the blossoms have fallen or the fruit is fairly formed, repeating in the course of ten days or a fortnight, and again at a similar interval before the fruit has turned downwards, a third application being necessary in most cases to effectually prevent the entrance of the caterpillars into the fruit. If the fruit has turned down, the spraying should be upwards, so as to coat the eye of the fruit.

with the poison—namely, Paris green paste 1 oz. to 20 gallons of water, keeping the mixture agitated whilst being applied, and only giving the finest possible film of moisture on the fruit and foliage.

Deutzias in Winter (H. W. M.).—If the Deutzias made good growth in the summer, and it has ripened and become hard by exposure to the sun and air, they will flower in the spring. They would have been better with the pots plunged in ashes in a sunny position in the open air during the past two or three months. It is natural for the leaves to fall in the autumn, and the plants should then have a rest. It is wrong to keep them in a warm greenhouse all the winter. Let them remain in the frame till the end of February or early in March, packing leaves or any other protective material round and over the pots. Frost in the frame will not hurt the tops. The roots must not be very wet, yet by no means dust dry. When removed from the frame dig some of the old soil from the pots, adding fresh, and pressing it down firmly. Give a good watering, syringe or sprinkle the plants well early on sunny afternoons, keep the roots moist, and the buds will quickly swell and flowers follow, subject to the above conditions of well-ripened growths. Do not prune them till after flowering.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (A. W. P.).—1, Mannington's Pearmain; 2, Gloria Mundi; 3, Dutch Mignonne; 4, Round Winter Nonesuch; 5, Yorkshire Greening; 6, Calville Rouge d'Hiver. (F. J. F.).—1, Hoary Morning; 2, Peasgood's Nonesuch; 3, Herefordshire Costard; 4, Waltham Abbey Seedling; 5, Golden Noble; 6, Golden Spire. (P. F. L.).—1, Bess Pool; 2, Dumelow's Seedling (syn. Wellington and Normanton Wonder); 3, Beauty of Kent; 4, Claygate Pearmain; 5, Blenheim Pippin; 6, Yorkshire Beauty. (L. Rowe).—1, Annie Elizabeth; 2, Lord Derby; 3, Warner's King; 4, Tower of Glamis; 5, Betty Geeson; 6, Dumelow's Seedling. (K. W. G.).—1, Springrove Codlin; 2, Small's Admirable; 3, Fearn's Pippin; 7, Sturmer Pippin; 8, Emperor Alexander; 12, Royal Russet. None of the specimens was typical; we cannot possibly retain fruits from week to week, as you suggest. (Cromford).—1, Bismarck; 2, Grenadier; 3, Cox's Pomona. (J. J. T. W.).—The fruits are out of character. 1, probably Lady Henniker; 2, possibly Cox's Pomona; 3, unknown, a local seedling, that never had a recognised name. (A. G. G.).—1, Beauty of Kent; 2, Cox's Pomona; 3, Kentish Fillbasket; 4, more nearly resembles Warner's Seedling than any variety with which we are acquainted.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (L. F. F.).—1, A poor form of *Laelio-Cattleya elegans*; 2, *Cypripedium selligerum*; 3, *Fittonia argynoneura*; 4, *Eucharis candida*. (W. C.).—1, *Cupressus Lawsoniana aurea variegata*; 2, *Thuopsis dolabrata*; 3, *Wellingtonia gigantea*; 4, *Cupressus Lawsoniana erecta viridis*; 5, *Retinospira ericoides*; 6, *Thuia occidentalis*. (Reader).—*Rhus toxicodendron*; the juice is very poisonous. (S. S. B.).—1, *Celsia cretica*; 2, *Lapageria rosea*; 3, *Dracena australis*. (M. A. R.).—1, *Impatiens Hookeri*; 2, *Cypripedium caudatum*. (G. S.).—The Fern is *Adiantum cuneatum elegantissimum*, which is not new. (H. S.).—We regret being unable to name Michaelmas Daisies; send specimens to any hardy plant grower for naming by comparison. The yellow flowered plant is also an Aster, and is known as *lynosyris*.

Covent Garden Market.—October 24th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bush. ...	2	0 to 3	0	Nectarines, doz.	1 6 to 9 0
„ cooking, bush. ...	1	6	5 0	Oranges, case	10 0 15 0
Cobnuts, doz. lb., best ...	4	0	5 0	Peaches, doz. small... ..	1 0 2 0
Damsons, $\frac{1}{2}$ bush.	0	9	2 0	„ doz. good size ...	6 0 9 0
Figs, green, doz.	0	6	0 10	Pears, crate	3 0 7 0
Grapes, black	0	6	2 6	Pines, St. Michael's, each	3 0 6 0
„ white	1	6	3 0	Plums, $\frac{1}{2}$ bush.	1 0 2 6
Lemons, case	15	0	30 0	„ Californian, case	4 0 6 0
Melons, house, each ...	0	6	1 6	„ stewing, case of	72 to 120
„ water, case ...	3	6	5 0		4 6 6 6

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	3	0 to 4	0	Lettuce, doz.	0 9 to 0 0
Asparagus (Sprue Grass)	1	0	1 3	„ Cos, score	0 6 2 0
Aubergines	1	0	1 6	„ Paris Green	5 0 6 0
Beans, French, sieve ...	1	0	1 6	Mint, green, doz. bnchs.	2 0 0 0
„ scarlet, bush. ...	1	6	2 6	Mushrooms, forced, lb. ...	1 3 1 6
Beet, red, doz.	0	6	0 0	„ outdoor, lb.	0 4 0 6
Brussels Sprouts, sieve...	1	6	2 0	Mustard and Cress, pnnt.	0 2 0 0
Cabbages, tally	3	0	5 0	Onions, Dutch, bag ...	4 0 4 6
Carrots, doz. bnch....	2	0	3 0	„ English, cwt.	5 0 0 0
Cauliflowers, doz. ...	1	0	2 0	Parsley, doz. bnchs. ...	2 0 0 0
Celery, bundle	1	0	0 0	Potatoes, cwt.	3 0 5 0
Cucumbers, doz.	1	6	3 0	Shallots, lb.	0 2 0 3
Endive, score	1	6	0 0	Spinach, bush.	1 0 1 6
Herbs, bunch	0	2	0 0	Tomatoes, English, lb. ...	0 2 0 5
Leeks, bunch	0	1½	0 0	Turnips, doz.	2 0 3 0
				Vegetable Marrows, doz.	0 6 1 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch	1 6	to 2 0	Lily of the Valley, 12 bun.	6 0	to 12 0
Asters... ..	3 0	4 0	Maidenhair Fern, dozen		
Carnations, 12 blooms ...	1 0	2 0	bunches	2 0	4 0
Cattleyas, doz.... ..	6 0	12 0	Marguerites, doz. bnchs.	2 0	4 0
Chrysanthemums, dozen			„ Yellow, doz. bnchs.	2 0	4 0
blooms	1 0	3 0	Odontoglossums	3 0	4 0
Eucharis, doz.	2 6	4 0	Pelargoniums, doz. bnchs	6 0	8 0
Gardenias, doz.	1 0	2 0	Roses (indoor), doz. ...	2 0	4 0
Geranium, scarlet, doz.			„ Red, doz.	1 0	2 0
bunches	4 0	6 0	„ Safrano, doz.	1 6	2 0
Gladiolus, dozen spikes	1 0	2 0	„ Tea, white, doz. ...	1 0	3 0
Lilac, white, bunch, ...	5 0	7 0	„ Yellow, doz. (Perles)	2 0	4 0
Lilium lancifolium album	1 6	2 6	„ English, La France,		
„ „ rubrum	1 6	2 6	doz.	1 0	2 0
„ various	2 0	3 0	Smilax, bunch	2 0	4 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.		
Acers, doz.	12	0 to 24	0	Foliage plants, var., each	1 0 to 5 0		
Arbor Vitæ, var., doz. ...	6	0	36	0	Geraniums, scarlet, doz.	6 0	10 0
Aspidistra, doz.	18	0	36	0	„ pink, doz. ...	8 0	10 0
Aspidistra, specimen ...	15	0	20	0	Hydrangeas, white, each	2 6	5 0
Azaleas, various, each ...	2	6	5	0	„ pink, doz. ...	12 0	15 6
Boronias, doz.	20	0	24	0	„ paniculata, each	1 0	3 0
Cannas, doz.	18	0	0	0	Lilium Harrisii, doz. ...	8 0	18 0
Crotons, doz.	18	0	30	0	Lycopodiums, doz. ...	3 0	6 0
Dracæna, var., doz. ...	12	0	30	0	Marguerite Daisy, doz. ...	8 0	10 0
Dracæna, viridis, doz. ...	9	0	18	0	Mignonette, doz. ...	8 0	12 0
Erica, various, doz. ...	8	0	18	0	Myrtles, doz.	6 0	9 0
Euonymus, var., doz. ...	6	0	18	0	Palms, in var., each ...	1 0	15 0
Evergreens, var., doz. ...	4	0	18	0	„ specimens	21 0	63 0
Ferns, var., doz.	4	0	18	0	Roses, doz.	6 0	18 0
„ small, 100	4	0	8	0	Stocks, doz.	8 0	12 0
Ficus elastica, each ...	1	6	7	6			



The Autumn and Winter Dairy.

WITH our minds full of the great London show in the second week of October, our thoughts are naturally led in the direction of the dairy. With the colder days comes the shorter milk supply, and prices have a tendency to rise. Much has been written and said as to the best modes of winter keep, and much will be written and said again. People are so apt to forget, and the younger generation is rising round us, and all the old ground has to be gone over.

To those who can afford the outlay and the time the Dairy Show

is one great object lesson. There is to be found a wonderful collection of dairy animals, some exceedingly good dairy productions, and a band of earnest workers, male and female. It looks like business when we read of milking contests. We wish both first prizewinners had been maids; however, it was a case of "honours divided." We always think that a woman ought to make a far better milker than a man, in the same way that an awkward horse is often better ridden by a woman—her hands are lighter, and she is less likely to jag at the bit and pull the mouth all to pieces. Delicacy of touch is a woman's inherent gift.

But we want now to speak of a few of the difficulties of dairying in autumn and winter. Autumn weather is very variable. We have one day broiling heat, the next a smart frost, and this great range of temperature makes the keeping of perishable food material like milk most difficult. The milk, too, itself varies so in quality. Adults possibly may not notice it, but the little baby does. When our children were younger and great milk consumers we invariably had stomach derangements this month, and we only to-day heard the complaint of a mother with a tiny baby. She has milk from two sources, from perfectly dependable people, but neither of the lots tasted quite right, and the baby was suffering accordingly. We at once put it down to some withered herbage or unripened grass that had been eaten by the cows.

There is a good "bite" in the fields yet, and cowkeepers are loth to begin their winter stores till quite obliged. We remember perfectly well a nasty taint in our milk after the cows had had access to some rotten and partially decayed Cabbages and other garden waste that had been carelessly left in their way. Cows are rather voracious feeders, and all is fish that comes to their net. The weather, too, has an effect on the cows. A bit of chill or cold and the milk is consequently less in bulk and inferior in quality.

After being finally taken up and housed for the winter the question of food is entirely under control, and there should not be any chance of unwholesome or undesirable food. Naturally the cowkeeper is desirous of using up all food, but care is needed to see that the food is sweet and wholesome. Mr. McConnell, in his note book, mentions twenty-nine varieties of plants which if in pastures have a bad effect on the milk. He might add to his list of injurious foods if he took note of the winter provision. We should have ourselves a great objection to feeding milk cows on Turniptops; there is something particularly strong and offensive about them. If coarsely chaffed and mixed with hay or cut straw, scalded with boiling water, and left twenty-four hours to heat, much of the offensiveness will be removed.

The outer leaves of the Cabbage gross and coarse are also very objectionable. If there is any doubt about the food being of a strong flavour, if it must be given, let it be after, not before, milking. Brewers' grains are much used in towns, and they certainly do help the flow of milk; but they have a way of going sour, and then they are anything but desirable food. Sour grains would make milk bitter. We do not hear as much of ensilage as we used to do, possibly because we have had some good hay-making seasons. It is a food that should be used with great care and discretion.

We have spoken of the water supply till we fear of wearying our readers, but it is a burning question, and does not receive half the attention it should do. By the water supply we mean not only the drinking water, but also that used in cleaning all milk vessels. Who does not know the taste of strong winter butter—strong enough to knock you down if you have a delicate stomach? Should the butter have an inclination to strength it is well to cause a thorough investigation—first, as to the nature of the food eaten by the cows; second, as to the cleanliness of all utensils which either receive or contain milk and cream; third, the state of the cream—i.e., temperature and acidity at the time of churning. If there is no chance of a change from the strong coarse food, all the dairymaid's efforts must be turned to eliminating the flavour. This can be done by scalding, cooling, and aerating.

We strive to keep our dairies cool and clean. Well, in winter it is quite easy to keep the cream too cool—that is to say, we do not give it a chance of ripening or acquiring the proper acidity necessary for successful butter making. Well, there is usually a snug corner in the farmhouse kitchen where the cream panchions may be placed and the cream allowed to ripen.

It seems a small matter to mention, but the cream must be constantly stirred. There is more art in this thorough mixing than people imagine. Do not go to the other extreme and make the cream too sour; it is only by practice that the exact point of ripeness can be ascertained. It is of great importance, too, that the cream panchions be perfectly clean and flawless; any crack or bit of glaze chipped off is fatal. On no account use metal vessels. There is one modern source of danger, and that is the separator. It may be considered clean, and probably is, but there is always the chance that a morsel of

dirt may be left undetected. That bit of dirt, like the Onion atom in the salad, will soon, though, "unsuspected animate the whole." The proper cleaning of the separator is no light task, nor should it be left to a young servant; it really is a bit of work for the mistress.

Are any of our readers ever troubled with "sleepy" cream; cream that refuses to butter? Depend upon it the cream has not been uniformly ripened; that is, not stirred enough, or possibly not warmed sufficiently to allow of the development of acid. If a sharp frost comes and the cream gets frozen, bring up the temperature very gradually, and be especially careful to see that the right stage of acidity has been reached. Churn cream that has been frozen separately; that is, do not mix with any other you have which has not been frozen. If in winter butter should be flecky, streaked, or cloudy it is a sign that it has been worked in too cold an atmosphere. We have often spoken of putting all milk and butter vessels out to air and sweeten; dare we add, be careful of your locality, not too near a drain or pigstye, or even on the ground. It is not many days since we saw a dog licking and sniffing around some panchions put out to "air," they were also within a few feet of a very nasty open drain. We have known butter spoiled by being worked on boards that have been scrubbed lavishly with soap, especially some of the stronger varieties. Soda and boiling water are quite enough; not much soda unless the water is very hard, and plenty of cold water rinsing afterwards.

Just one more point and we have done. Are the winter quarters of the cow as sweet and wholesome and light as they ought to be? Remember all germs love the dark. Admit the sun, and then you see reason to admit the broom and whitewash bucket. Milk is often tainted between leaving the cow and reaching the dairy.

Work on the Home Farm.

Weather still fine! Very warm days and a touch of frost in the early morning, but not yet enough to destroy either Kidney Beans or Dahlias. Never was there a more favourable time for taking up Potatoes, and very few are now left in the land. Prices are rising, £4 per ton being easily procurable for good stuff. So, as often has happened, we shall probably find this year's deficient crop more remunerative to the grower than a good one would have been. An interview with some Irishmen who have been picking up a neighbour's crop elicited the opinion that no difference could be detected between sprayed and unsprayed portions of the field. The owner's opinion is in favour of the sprayed, but he uses his eyes, not his hands.

Farmers are not in a hurry to drill Wheat; perhaps they are waiting for more rain. Certainly some fields are dry enough, and a good moistening would make the mould work down better. The ley has hardly been ploughed long enough, but if it can be got in well the Wheat would be better growing, and making a strong plant before winter. There is generally a loss of root on ley, and the stronger and thicker the plant is the better can it stand against the ravages of wireworm.

We see that a discussion on the most suitable quantities of seed Wheat to sow has been started in the pages of the "Agricultural Gazette," to which also Lord Denbigh's agent has sent a report of a trial of two leading varieties of Wheat at Newnham Paddox. We think this report gives a very good hint as to suitable seeding, for both crops were successful ones—viz., 40 and 56 bushels per acre respectively, and both were drilled with $2\frac{1}{2}$ bushels per acre. This is a typical quantity, which may be increased as we approach winter, but we must not exceed 3 bushels. Scholey's Squarehead was the champion sort at Newnham, but as it was grown on Bean stubble whilst White Monarch was grown on Clover ley, the comparison is hardly a fair one. The latter lost root in winter, though it appears to have recovered sufficiently to give promise which was hardly fulfilled when tested by the thrashing machine. Squarehead is a very suitable Wheat to follow either Beans or Potatoes, and it is still our most productive kind; but there is some risk in sowing it on ley, as it does not tiller so well as other kinds, and therefore does not fill up gaps made by wireworm. If we did sow Squarehead on ley, which has not been our practice, we should sow 3 bushels after October 20th, and not sow it at all after mid-November. White Wheat is better for late sowing.

Mangolds are still growing and doing well; we notice men at work storing them on one or two farms. We think they may be left with advantage into November, and certainly have never seen any injured by frost before Martinmas, so we cannot see the force of employing labour to store them now when the fine weather gives us the chance to do so much other work that is equally necessary and more urgent at the present time. For instance, the stubble heaps from the worked fallows might be carted, some of them, into the yards to make a nucleus of bedding for the cattle so soon to be brought up; others to a place handy for use in covering the root heaps later on. Good clean straw is too scarce to use freely for such a purpose, and stubble secured and heaped in dry condition will make an efficient substitute.



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		s. d.	s. d.
Hyacinths in fine mixture, for bedding or forcing	11	6	112 6
Hyacinths, single, first size, named, in several leading sorts, red, white and blue varieties, equal quantities, my selection	20	6	—
Single early Tulips, in the finest mixture	1	10	16 8
Double early Tulips, in the finest mixture	2	4	22 6
Duc Van Thol Tulip, mixed, excellent for early forcing	2	6	20 0
Sparaxis, in mixture	0	8	0 0
Triteleia uniflora, pure white, very fragrant	1	6	—
Ixias, in the finest mixture	0	6	5 0
Crocus, first size, in the finest mixture	1	2	10 0
Crocus, second size, in the finest mixture	0	7	5 0
Crocus, yellow, third size	0	6	4 2
Spanish Iris, in the finest mixture	0	7	5 0
Iris Kämpferi, mixed Japanese varieties	5	0	40 0
Iris sibirica, all sorts, in mixture	4	0	40 0
Montbretia crocosmiflora, orange scarlet	1	6	—
Narcis, Double Incomparabilis, primrose	1	6	14 0
Narcis, Single Van Sion, yellow trumpet	3	0	29 2
Narcis, Stella, white, yellow cup	1	4	12 6
Narcis, bicolor princeps	2	6	23 4
Gladiolus Marie Lemoine, cream, blotches purple	2	0	19 2
Gladiolus Breuchleyensis, deep scarlet	2	6	20 0
Scilla Sibirica, intense blue	1	8	15 0
Hyacinthus candicans (Galtonia) white	5	0	45 10
Snowdrops, Galanthus Elwesii, giant flowered	1	10	15 0
Tritoma Uvaria (Red-hot Poker)	14	6	—
Lilies, in fine mixture	12	0	120 0
Narcis, Pheasant's-eye (poeticus)	1	2	10 0
Single Anemone, The Bride, pure white	1	8	15 0
Single Anemones, in the finest mixture	1	8	15 0
Ranunculus, French varieties, mixed	1	0	9 0
Ranunculus, Persian varieties, mixed	1	0	9 0
Gladiolus Colvillei alba, pure white	1	2	10 0

250 Bulbs of the same kind will be charged at the 1000 rate; 25 at the price per 100; 6 at the price per 12.

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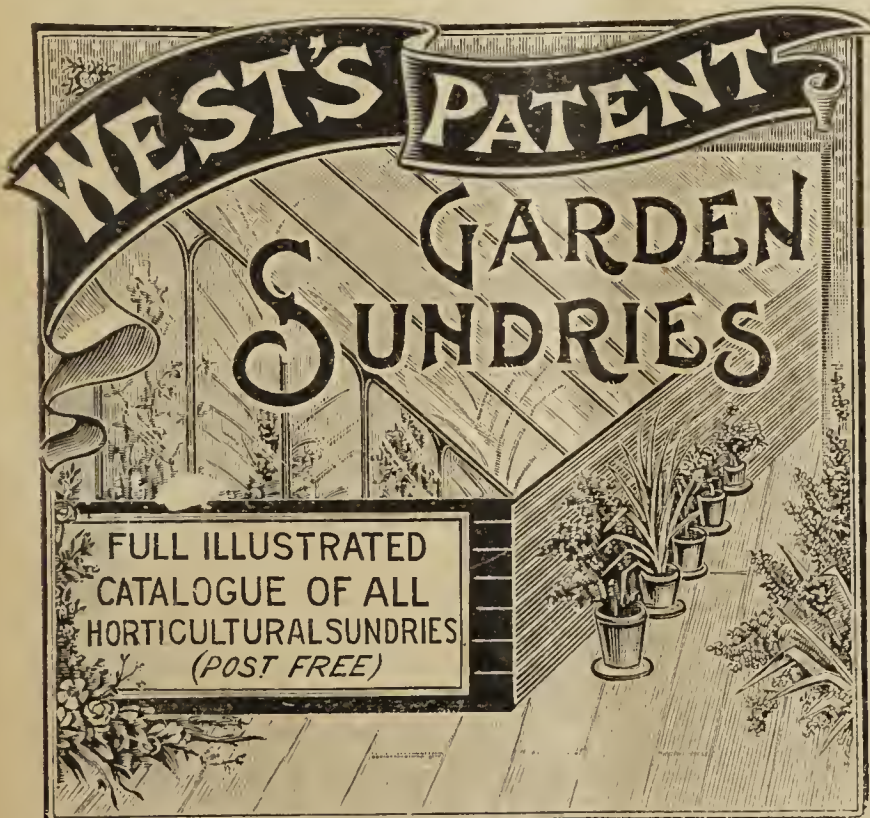
THURSDAY, NOVEMBER 1, 1900.

Wild Flowers of Old English Gardens.—1.

THE Romans were certainly lovers of gardening pursuits, and it is possible that the villas they built during their occupation of Britain had flower gardens attached, displaying plants from Italy and other sunny climes. Were it so, we do not wonder that all these vanished in that troublous age, when Saxon and Dane contended for the mastery. Even in unsettled periods English monks seem to have kept up some amount of knowledge about plants of all kinds, and probably received from time to time seeds and dried specimens, carried by pilgrims or palmers who had been in the East. Yet I fix the century after the Crusades as the period when exotic species began to appear in gardens, chiefly those of nobles or wealthy citizens, these wars having given an impetus to research and to travelling. But the useful was more to the front than the ornamental, and only a few took any heed of the flowers which adorned sunnier lands; people thought more of the herbs, fruits, or vegetables. Then, for a long while, indeed even till last century, the idea prevailed amongst gardeners, that exotics must be coddled for the most of the year because of the uncertainties of our climate. Many that would have thriven out of doors, under suitable conditions, were nursed up during winter in houses, and brought cautiously out when summer arrived.

Now, persons having small incomes can adorn their gardens or windows with a variety of flowering plants at a small outlay, but in the days of the Tudors, the Stuarts, and the early Georges, the small tradesman or the labourer could not obtain exotics had he possessed the money to buy them. But he had his resource; the country was free to all, so he went out when he had a holiday to the fields, the lanes, the woods, and such plants as took his fancy by their foliage or their flowers he took

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up and transferred them to his own domain. They answered a double purpose, reminding him of a pleasant ramble and also adorning his garden. London, always the centre of English progress, took the lead in horticulture as in other things, amongst our ancestors, and its inhabitants were so fortunately situated in the matter of obtaining wild flowers that they could obtain a great variety of species of an attractive nature. Even yet, though building operations have swept the immediate suburbs of most wild flowers, the outer suburbs afford some that are rare and local. The richness of the early London flora is quite explained by the great diversity of the scenery around it, and the fertility due to numerous streamlets, ponds, and marshes. It has been estimated that the flowering plants of Old London were between 800 and 900 species at least.

Though we have reached the year 1900 we still find many wild flowers occupy a place in humble gardens, and we have about larger grounds some descendants of native species which we scarcely recognise. They have risen in the world, and, like a City merchant whose ancestor was a coalheaver or scavenger, their present lustre eclipses their parentage. Great have been the changes wrought by richer soil and skilful crossing in the course of years. To a certain extent we can trace the history of wild flowers under cultivation, but we do not know all that were transplanted by our ancestors. Some that were showy enough did not thrive permanently when growing away from their native haunts, and some again which had popularity for awhile, were afterwards discarded as weeds.

Perhaps, plants of the Rosaceous tribe might be placed in the first rank of those likely to be transferred, from rural scenes, to town and village gardens. The charms of the Oriental Roses were known in Britain centuries ago, but the flowers being seldom attainable, people contented themselves with such Roses as our colder clime can furnish. I suppose the favourite amongst these was the poet's Eglantine, the Sweetbrier, still popular, though now varied by cultivation. Five centuries ago some Amsterdam folks formed a Society of the Eglantine, having for its motto "Blossoming by Love." It does not appear to be a London wild flower, probably it never was, but has occurred sparingly in some southern counties on gravel or chalk. The Burnet, or Scotch Rose, has been noticed seemingly wild about South England, but its home is Scotland and Ireland. Sir J. Sibbald is reported to have introduced it into gardens towards the end of last century; since then a host of varieties, English and foreign, have had their turn of popularity. One Glasgow nursery was said to have produced 300 varieties of *R. spinosissima*, many obtained by a method called random in-and-in-breeding, mixing several sorts in one plantation.

Visiting one day an old village house, I observed that along its hedges *R. arvensis* was blooming freely, evidently planted there long since. The branches extend many feet; its handsome white flowers are mostly in fours and fives. The fruit is said to have a pleasant flavour, and this trailing Dog Rose was no doubt often planted in gardens. About 1830 the London nurseries displayed what was called the Double Hep Rose, a plant having large petals of pale pink, the history of which is uncertain. According to Mr. Sabine it came from some one of the common garden Roses, which had been fertilised by the pollen of a sport of *R. arvensis*, found in Devonshire. Whether this Double Hep Rose still exists I cannot say. Then they cultivated in some London gardens the close-styled species of Dog Rose (*R. stylosa*), which occurred in thickets or copses of North Middlesex. By management gardeners got this to grow upright, as a slender shrub, 8 or 10 feet high. Another wild Rose, a double variety of which was common in gardens, is *R. cinnamomea*. The flowers of this species have really little scent, but what they have has been compared to Cinnamon. Some think it a doubtful native; it grows wild, however, in most European countries. The broad petals are

light crimson or else purplish; the round fruit is an orange colour. It is possible that the Downy-leaved Dog Rose (*R. tomentosa*), formerly common near London, may have been sometimes introduced into gardens, though Sir James Smith states that it does not improve even in good soil.

Before Privet and other evergreens became popular for hedgerows a variety of native species were called into requisition. Hawthorn, Sloe, Elm, Maple, Elder, and Hazel were commonly used. Around old market gardens and nurseries of London I have seen several species of *Prunus* or *Pyrus* mixed with other shrubs. The Bird Cherry once grew wild about Hampstead, perhaps elsewhere near London, but I never noticed this in suburban hedges, though it may be found in some farther west and south. The wild Cherry was not unfrequent, of several varieties, though it has vanished from copses in the suburbs for many years; slips were probably brought to London for experiment by Georgian gardeners. Of course there was the Crab (*Pyrus Malus*), still found wild in what yet remain of London copses, and some nurserymen cultivated it in their grounds, for the flavour of some varieties was much approved when baked; also the expressed juice was popular as a remedy for sprains and scalds. Here and there in a hedge appeared *P. Area*, the white wild Pear, remarkable for its hard wood and downy young branches. Suburban hedges also showed the wild Service Tree (*P. torminalis*), not unfrequent formerly near London. Early in this century the fruit, which is not much larger than the haw, was sold about the streets during autumn.

Sundry smaller species of the Rosaceous tribe, well-known wildlings, become familiar objects along garden beds. Before the foreign *Spiræas* were popular, indoors and out, one of the native species was cultivated, the Meadowsweet, also honoured with the title of "Queen of the Meadows." It was liked for its show of feathery flowers and its strong perfume, which, however, in a confined space has several times proved dangerous. This was easily obtainable from many brooks or ditches that flowed into the Thames and Lea. The foliage, too, when dried has an aromatic flavour, which has been compared to that of green tea or the Orange flower. Another *Spiræa*, the common Dropwort, partial to chalk, and having little scent, has in the hands of gardeners produced a beautiful double-flowered variety. Several botanists maintain that the Willow-leaved Dropwort is British; certainly it occurs plentifully about North Wales, but it may have been imported from Germany. This is more of a shrub than the other *Spiræas*, exhibiting rose-coloured clusters of flowers.

Amongst other proofs that the Avens or Herb Bennet was well known to the monks is the frequency with which we discover it in thirteenth century carvings on walls and pillars. Probably it was grown in gardens quite as early as that date. Though its crimson stamens and plumed seeds are noticeable, it was rather the virtues of the plant than its beauty which led to its cultivation. Where this plant grows the devil dare not approach, such was the belief; also it was a "blessed herb," and dedicated to St. Benedict. The root they boiled in various liquors to impart an agreeable flavour. I do not know if any traveller brought to old London gardens from the northern hills the Dryas, or Mountain Avens, possibly he might. It is an Alpine plant which would have been an adornment to rockwork. Since the Cinquefoils were plants reputed to bring good luck there was a reason for growing them near the home, though they are inconspicuous species mostly. An exception is the Silver Weed (*Potentilla anserina*), the shining foliage and yellow flowers making it attractive; it was also called Wild Tansy, but in gardens required plenty of moisture. The shrubby Cinquefoil was observable about some old-style gardens, being brought from the north; under cultivation it made a good show of golden blossoms in summer and autumn. It was in the kitchen rather than the flower garden that the Salad Burnet was grown, even till last century, the leaves being used for salad and to make a "cool tankard"—we should not like the flavour now.—J. R. S. C.

**Cypripedium Vidor.**

THIS is a new hybrid that was obtained by Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell, from a cross between *C. Chas. Canham* and *C. Harrisianum superbum*. The flower (fig. 108) is large and of great substance. The grand dorsal sepal partakes of the *Harrisianum* character. The basal portion is claret purple and green, and the entire organ is broadly margined with white. The fine petals are claret purple on the upper half and paler beneath. The pouch is of similar shade to the upper portion of the petals. The Orchid Committee of the Royal Horticultural Society recommended an award of merit when *C. Vidor* was exhibited at the Drill Hall on October 23rd.

Lælio-Cattleya Dominiana.

IF the late Mr. Dominy had done nothing else but raise this fine hybrid he would have rendered a splendid service to horticulture, and it is fitting that such a fine plant should have been dedicated to him, for it will keep his memory green. It is the result of crossing *Cattleya Dowiana* and *Lælia purpurata*, and as may be expected from such parentage, it is one of the finest hybrids in cultivation, its habit of autumn flowering being all in its favour. Like many others that have been raised in various places, the flowers of *L.-C. Dominiana* vary considerably, but all are good.

A typical flower would be as large as a good *L. purpurata*, with rosy red sepals and petals, and a finely modelled lip of deep crimson purple, radiating lines of golden yellow indicating its relationship to the *Cattleya* named. For a number of years the parentage of this hybrid was in doubt, *Lælia lobata* being considered one of its parents, but since the more recently raised plants have flowered all doubt as to their identity has been removed. Plants of it in many varieties have frequently been exhibited, and those growers who are fortunate enough to possess plants have found it to be an excellent grower. Its habit is strong and vigorous, and it is one of those that must eventually become a well known and popular plant.

Angræcum sesquipedale.

Once again the beautiful ivory white blossoms of this *Angræcum* are open, and there should be no difficulty now in keeping up a display for a considerable time. This is one of the plants that the late Mr. Darwin was very much interested in, and his arguments about its fertilisation in his wonderful work are most interesting. Ample light and heat, together with plenty of atmospheric moisture, seems to suit it exactly, and only sufficient shading should be allowed to prevent the leaves scalding. Moderately large pots, and a compost consisting largely of sphagnum moss and crocks, suit it well.

The Butterfly Oncidiums.

The resemblance to a butterfly is very striking in those pretty Orchids *Oncidium Kramerianum* and *papilio*. That they are not distinct species must be allowed, but they are quite distinct enough to merit at least varietal rank, and in this case *O. Kramerianum*, which

is the more beautiful of the two, would rank as a variety of *O. papilio*, the latter having been in cultivation many years before the former. The plants of each like an abundance of heat and atmospheric moisture, but greatly dislike any great amount of compost about the roots. I have had the best results from fastening the plants to rough pieces of cork and placing a little sphagnum moss about the base of the leading pseudo-bulbs. This will spread, and the roots will run all through it, the green cushion of moss forming a protection to the latter in summer and keeping them moist. Should it grow very luxuriantly it will be safer to remove a little of it at this time of year, as during the winter months it is apt to gather and hold too much moisture. The temperature should never fall below 60°.

Oncidium Lanceanum.

Fine flowers of this lovely *Oncidium* come from a Midland grower. Very fine in all ways is this species, and of late years it has thriven far better in our Orchid houses than it was wont to do formerly. The lovely combinations of yellow, chocolate, and white never fail to attract, and the leaves on well-grown plants are strikingly handsome. An important point in its culture is to see that the materials used in the compost are of the most lasting description.

Rational Orchid Growing.

A great deal has been written and said respecting the Orchid 'craze,' as it is termed by those who have had little chance to judge of the merits or demerits of the cult, and much unfair criticism has on this account been levelled at Orchid growers generally. I may as well say at once that I am entirely out of sympathy with this; there is no craze in growing such a beautiful family of plants; but without a doubt there are some growers who allow themselves to be led away by the money value of plants rather than their intrinsic worth as objects of beauty.

I was looking through a collection in the West of England recently where there were many fine Orchids of the useful and beautiful class, and as they were in the hands of an efficient grower, they certainly were very interesting. But in showing me through the owner hardly paused at these excellent garden plants, but passed on to a few miserable-looking bits in a corner to themselves. These were the rarities. One would be an albino of a species, another a back-break, perhaps, from some noted collection of a very rare sort, and so on; all purchased at a high price, and

all absolutely useless as garden plants. For it is well known that many of the rarer sorts are bad growers at the best, and when they have been divided again and again, to make "duplicate" plants, as the custom is, then in many cases it is out of the power of any grower to bring them into presentable form.

It is quite different with small seedlings and choice hybrids. These, as a rule, have plenty of vigour. They are small perhaps when they come into the hands of the grower, but they soon make progress if properly treated, while the miserable back break from a plant that has for years been languishing in an Orchid house in most cases keeps going from bad to worse. This is the sort of thing that brings ridicule upon Orchid growers. They are termed faddists, and accused of worshipping plants for their money value.

To grow Orchids well and prize them at their true worth should be the aim of all growers. It stands to reason that when an exceptionally fine form appears, or when, after years of care, a distinct and good hybrid is flowered, such plants will realise exceptional prices. It is only just. But this should not be the aim and end of the grower any more than it would be the policy of a *Narcissus* specialist to neglect his *Sir Watkins* for a rarity at so many guineas the bulb.—H. R. R.



FIG. 108.—CYPRIPEDIUM VIDOR.

The Storage of Vegetables.

DRY sunny days and foggy nights, sometimes attended with frosts, have been prevalent throughout the greater part of October, and the weather has been just what we wanted. A dry autumn is generally acceptable in a garden, for there are so many duties to perform to make all things snug and comfortable for the winter. Potatoes have come out clean and dry, but unless there is a thorough system of storage the greater part of the cultural labour may be wasted. Indeed, I am afraid this is too often the case, and Potatoes are lifted and put aside with the idea that no further care is needed as long as they last. This kind of storage often has disastrous endings. Half a dozen tubers with the germs of disease in them placed in the middle of the heap will soon contaminate the whole if allowed to do so; a defective place where the wet can penetrate will mean wholesale rot before the winter is over, and a small colony of rats allowed to take up their winter abode among the Potatoes will not prove profitable.

A good deal of after labour is avoided when the sorting is done as lifting proceeds. With an intelligent man in charge of the job, and pickers enough to keep abreast of the diggers, the operation is simple enough. There is one little heap of tubers kept quite distinct. They are the monsters, and are reserved for baking, for no matter what variety is grown there are sure to be a few tubers which grow to more than normal size. A large pile near at hand is the ware to be stored for winter use; a lesser heap, composed of tubers of smaller size, are for seed. It does not follow that they will be used on the same land next season, as most likely they will be sent in exchange for sets from another locality; and the last heap will be of pig Potatoes, too small for cooking or for seed.

The next operation is the storing. We should like a cool, dry, frost-proof building, such as a farmer's barn with a wooden floor, for then no further labour would be necessary, and the Potatoes would be readily got at; but not being so blest, the tubers must again be consigned to mother earth in the form of a clamp. First, the soil is levelled and trodden firm, and then the dry ware tubers are piled up in a long, narrow, conical heap, and a thick coating of good straw placed over them. Commencing at the base, soil a foot thick or more is placed on, and the operation completed leaves a neatly finished clamp, rain proof and frost proof, though in the case of severe weather a further coat of rough material will be applied. A sharp look out will be kept to see that rats do not break in, and if one should be so bold he will have to run the gauntlet of the jaws of a steel trap.

Onions have harvested splendidly, and long wreaths of bulbs are firm and sound, hanging up in their winter quarters. The pricking-out system has been adopted from seeds sown in boxes in February. This is not done with the idea of procuring monster bulbs, but in following the aim that should be the guide in all gardening operations—i.e., getting the heaviest possible weight of produce from the ground cultivated. And the result is more than satisfactory, for surely a hundred specimens averaging half a pound each are more serviceable than twice the number of 2 oz. bulbs. Further, it is all nonsense about pricked out Onions not keeping, for the same rule governs them as bulbs sown out of doors—they want proper harvesting, and it is only when everything else is sacrificed to the worship of size and the plants are highly stimulated to get this that they fail to keep through the winter.

Carrots and Beet, and considering the scanty supply of moisture during the growing period, have come out remarkably well, and are now safely housed in a dry shed piled up in miniature mountains of sand. All things considered, this is an excellent method of storing roots, and they keep fresh and firm throughout the winter. Care is needed in the first place in removing the tops, particularly with Beet, as bleeding is detrimental. The first layer of roots is placed in a square, the crowns pointing outwards, and on this is scattered a coating of moist sand, followed by another layer of roots, and then sand again, and so on till the heap is completed. A great advantage is that the roots can be taken from the top as required without disturbing those underneath, and if the sand is moist to begin with, Carrots and Beets will keep in a fresh condition as long as they are needed. Where facilities are not to be had for devoting this care, I would prefer clamping the roots the same as Potatoes rather than throwing them carelessly together in a heap, as is too often seen. Parsnips are generally left in the ground and dug as required. Being perfectly hardy they lend themselves to this treatment, but in land where canker is prevalent or grub pests numerous, it pays better to lift the crop in the autumn and store the roots on the lines indicated. Considering the importance of these vegetables for household supply through the winter, I am not sure whether sufficient attention is paid to matters of storage, and surely there is no economy in successfully growing a crop and then losing it for the want of careful preservation.—H.

Pear Glastonbury.

THE occasions on which the Fruit and Vegetable Committee of the Royal Horticultural Society recommends first-class certificates for Pears are so extremely rare that they call for special notice from visitors at the Drill Hall meetings. On Tuesday, October 23rd, this award was made to Pear Glastonbury, of which a fruit is accurately portrayed in the illustration (fig. 109). It is a decidedly handsome fruit, bearing on first sight a resemblance to the well-known Beurré Hardy. The fruits are above the average size, and are appreciably higher on one side of the axis than the other. The large, wide, open eye has hard tooth-like segments, which protrude slightly beyond the base of the fruit. The stalk is about three-quarters of an inch long, stout, curved, and set in a moderately deep depression on one side of the fruit. The skin is yellow, with a profusion of small russety specks on the shaded side, but on the side exposed to the sun is almost entirely covered with cinnamon coloured russet, and has also a most beautiful flush of orange. The flesh is white, buttery, melting, very juicy, sweet, peculiarly aromatic, and leaves a slightly rough effect on the palate; it is a little gritty at the core; the flavour is somewhat akin to that of the old Swan's Egg. If Glastonbury prove a reliable cropper its attractive appearance and excellence of flavour will insure it immediate popularity, as it comes when first-quality Pears are by no means numerous. The variety was exhibited by Mr. C. C. Tadway, The Cedars, Wells, Somerset.

Early Apples.

OPINIONS differ regarding the commercial value of early and late varieties of Apples respectively, but experience in seasons of heavy crops, like the present one, has shown an advantage in market returns on the side of late keeping varieties both for cooking and eating. When Plums are abundant the demand for early Apples is materially diminished, and since it is necessary to get the latter on the market as quickly as possible, the reduction in prices is easily understood. These are general results, but it can be shown that even under such circumstances, the best and earliest varieties, with good cultivation, and special care in the selection and packing of the fruits, may yield satisfactory returns. In any case, either for market or garden, early Apples in due proportion are indispensable, and it becomes chiefly a matter of judicious selection to insure a fair measure of success.

In private gardens which are entirely devoted to supplying the requirements of a family, quality is the primary consideration, though earliness is also a valuable character, and good appearance in addition is a strong recommendation. In many gardens now the commercial aspect has much weight, and the properties which recommend an Apple in the market and to the general public must have due attention in all selections. Colour, form, and size, therefore, have often to be placed before quality, vigorous constitution and free cropping being still further important considerations to the gardener or grower who has to perform the interesting arithmetical feat of showing a profitable balance in his accounts.

During recent years many additions have been made to the list of early Apples, some of which have not maintained the character that was originally claimed for them, while others have developed higher qualities than they were at first supposed to possess. In forming an estimate of the value of new varieties, so many circumstances have to be considered that hasty judgments, founded upon imperfect evidence, are usually misleading and require to be modified by experience. A dish of handsome Apples may be shown, and if the fruits are found to be distinct and meritorious as regards quality, awards may be secured which convey no information as to the habit and cropping characters of the tree. Yet on these much of the usefulness of a variety must depend. Constitutional weakness or sparse cropping (i.e., defective fertility) may render an otherwise promising Apple almost valueless to the grower. There is also the diverse behaviour of varieties on different stocks or soils to be considered, and until some information is obtained bearing upon this, the knowledge of an Apple is incomplete. Any contribution of careful observations upon these matters should possess a measure of utility, and with this object in view a few notes will be occasionally given respecting the best sorts of hardy fruits.

Early Dessert Apples.

Amongst the earliest dessert Apples a prominent place must be given to Beauty of Bath, of which the fruit is attractive in form and colouring, while the flavour possesses a refreshing briskness that is often wanting.

in early Apples. A few years ago I should have placed Mr. Gladstone before this, as it is usually earlier, of deeper colour, and handsome as a market fruit, but I have found Beauty of Bath more reliable in its supplies of fruit and generally of better habit, especially on heavy and medium soils. On a Paradise stock it forms a spreading, bushy, open tree of medium strength, with abundant foliage. The tree is apt to be rather disappointing at first, as fruits are only sparingly produced, and I have not found it at any time one of the most prolific, still, when a well furnished tree has been secured it yields satisfactory, if not heavy crops, and cannot fail to be of value either in a garden or a market. It is usually catalogued as in season during July and August, but except in the earliest districts it is an August Apple, and must be disposed of as soon as it is ready for gathering.

Margaret, or the Early Red Juneating, though an old variety, is still one of the most useful for early sale, but it cannot be assigned a first place as regards quality. It has a tempting aromatic odour, and a sweet, pleasant flavour fresh from the tree, but it so soon becomes mealy and tasteless, that unless the plan recommended by the late Dr. Hogg is adopted—namely, “gathering the fruits a few days before they ripen,” the full flavour is rarely obtained, and it is therefore not much valued for dessert. As a market Apple it is useful, for it crops well both on the Paradise and on the Crab, forming on the dwarfing stock a fairly compact tree; the growth is slender, and the leaves small but abundant. It is well suited for medium and heavy soils. On moderately light soils the Crab stock is the more satisfactory, as the tree continues in good condition longer.

There has been much confusion respecting the early Apples known as Margaret, Madeleine, Magdalene, Juneating, and Joaneting, and in the endeavour to settle the nomenclature Dr. Hogg has given (in the “Fruit Manual”) some interesting historical notes. There seems little doubt that Juneating is a misnomer, and Joaneting is a preferable form, but this is restricted to the White Juneating, a pale coloured very early Apple, not so generally known as it was formerly, the brighter coloured Margaret being more popular now, but it is still included in some trade lists. Magdalene is a synonym of Margaret, but Madeleine, or Summer Pippin, is a distinct Apple, though I fancy it would be difficult to obtain true samples of it at the present time. André Leroy described and figured an Apple in the “Dictionnaire de Pomologie” under the name of Pomme Fraise, which closely resembles the Margaret—we have noted, and he mentions as synonymous La Madeleine Rouge and the Red Juneating, also the Early Strawberry of Downing.

Devonshire Quarrenden is an indispensable favourite, and is recommended by many qualities as useful for garden and market. Its rich colour, distinct form, and pleasant flavour are strongly marked characters that render it easily recognised even by the general public, though the popular rendering of the name varies from “Quarringdons” to “Quarrantines.” Some fine examples were recently shown at the Drill Hall, Westminster, as Red Quarrendens, a title which it bears in some districts and nurseries, though it is rather misleading, as I have known several persons fancy it was a superior form of the old Devonshire Quarrenden.

This variety succeeds well on a Paradise stock, growing freely and fairly strong. It is upright in habit, but requires judicious pruning to keep the tree shapely. Where it is found in any degree weakly on a Paradise the Crab stock should be tried, as the variety makes vigorous clean growth on that stock, and I know some nurseries where that is always used to the exclusion of the Paradise for this and some other Apples. The variety is certainly more at home in a warm soil of medium texture, but I have found it thrive in heavy soils if these are well prepared and subsequently worked. A low situation should be avoided; and adequate shelter from winds must be provided to insure the best results.

Rivers' Early Peach is in some respects an improvement upon that

old garden favourite Irish Peach. The fruit is about the same size, and at its best can only be described as small or medium, but it is similarly rich in flavour when freshly gathered, and the tree is more vigorous, erect, and compact, with abundant small leaves; the fruit also is not confined to the upper parts or tips of the branches as it usually is in the typical Irish Peach. The flesh is soft, juicy, sweet, and aromatic.

Those who like a larger dessert Apple find Lady Sudeley a welcome addition to the lists of early varieties. It has been described as “Irish Peach improved,” but this is scarcely an adequate indication of the characters of the variety which, as regards appearance, is much handsomer than that with which it is compared. A good average fruit, such as I have now before me, is 3 inches in diameter at the base and 2 $\frac{3}{4}$ inches high, somewhat conical in form, streaked and flushed with brilliant red on a yellow ground tint, the whole surface being glossy and shining. The eye is small, partly closed, with narrow erect segments, and is rather deeply set in an angular basin. The stalk is thick, half-inch to three-quarters of an inch long, in a deep even cavity, which is usually covered with pale russet. The flesh is slightly tinted near the stalk and under the skin; it is firm, crisp, juicy, sweet, and aromatic when fresh from the tree, but does not retain its qualities long when gathered.

The tree is fairly prolific, compact, and bushy in habit, of medium growth with ample foliage, and it is satisfactory on both Crab and Paradise stocks. The fruit ripens in the Midlands from the end of August to the middle of September, but is earlier in the southern counties. I have described this fine Apple somewhat fully, because it does not appear in the “Fruit Manual,” and the majority of the trade lists scarcely do it justice, as in substantial soils it is considerably more than an exhibition variety.

A September Apple of fine appearance, and much utility from a trade point of view, is Worcester Pearmain, which is also when in fruit one of the most ornamental varieties grown. Bush trees and small standards are fruiting freely this year, and the brilliant colour of the Apple renders the trees very conspicuous. It is a profitable Apple to grow, as it is a good and regular cropper in districts that are not too exposed; and the general appearance of the fruit is so attractive that it commands a ready sale at remunerative prices. It is of moderate growth, compact in habit, and prospers both on the Crab and the Paradise; but I think that half-standards on the Crab are more satisfactory in some places, as there is a tendency to early exhaustion and disease

on the Paradise. This is dependent, no doubt, to a great extent on soil and situation, but in a general way the variety is both reliable and useful. The fruit is juicy and refreshing direct from the tree, but soon becomes woolly if stored.

Williams' Favourite is not yet generally known, but it is so unusually good this year that it demands a note. The fruit is of medium size, oblong, with rather prominent rounded angular sides; the colour in bright crimson streaks becoming intensely dark on the side exposed to the sun. The flesh is white, soft, and pleasantly though not highly flavoured, but soon loses its quality after gathering, though the fruit will keep sound for some time. Upon a Paradise stock the tree is somewhat loose and straggling, and needs careful pruning. It is rather better on the Crab.

Summer Golden Pippin (of some authorities), more commonly seen as Yellow Ingestrie, is so widely known that it scarcely requires description, yet it cannot be passed unnoticed, as though the fruit is small, the tree is so remarkably productive that it is by no means the least profitable Apple to grow for sale in quantity, especially near a town. Selected well-developed fruits have a fine golden tint, and are acceptable to those who prefer firm briskly flavoured Apples. It makes a rather loose tree on a Paradise stock, and is apt to crop so freely that thinning is needful, or the fruits are extremely small. On the Crab it forms a compact standard, and established trees bear wonderful crops of what are often rather slightly termed “barrow fruits.”

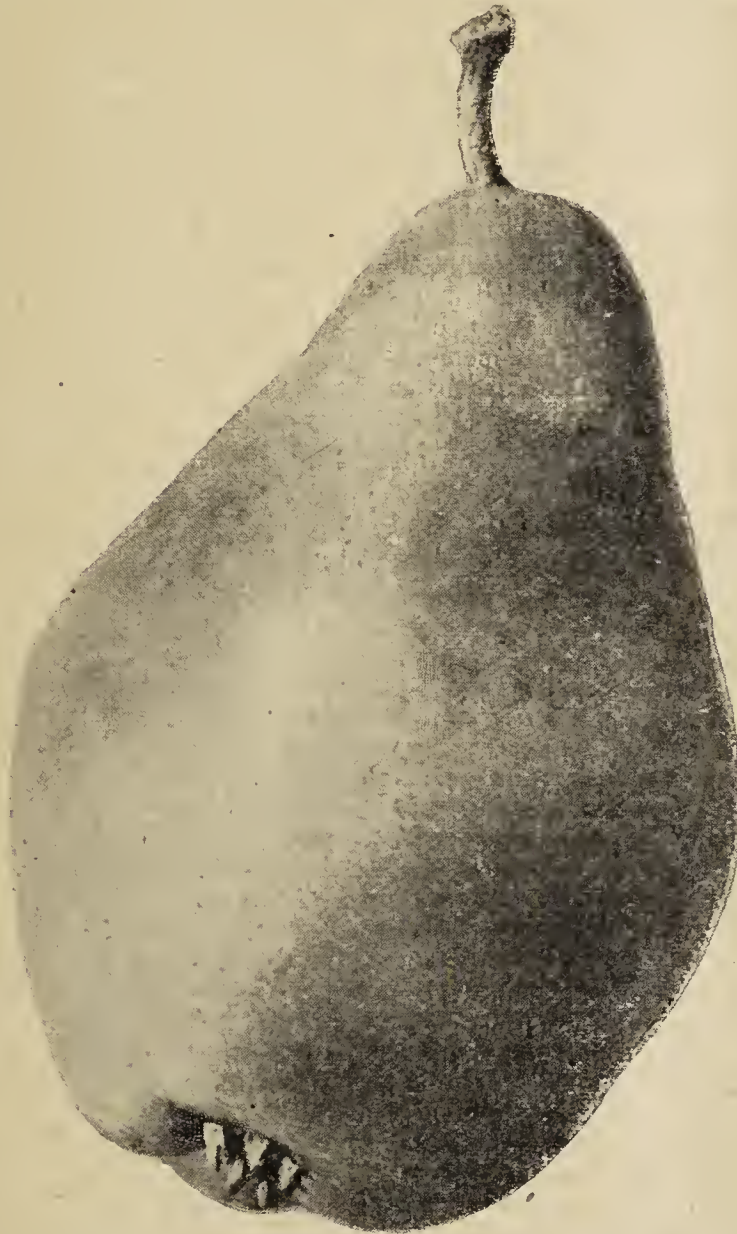


FIG. 109.—PEAR GLASTONBURY.

With Langley Pippin I have not had much experience at present, but so far a favourable opinion has been formed concerning the variety. The parentage of the Apple would render it a subject of interest, as it is recorded to be the result of a cross between Mr. Gladstone and Cox's Orange Pippin. That the pollen parent has had a material effect is shown by several characters, amongst them being the rich flavour of a well-matured fruit. As an August Apple I anticipate that this will become a favourite in many gardens.

The varieties noted are essentially August and September dessert Apples, and unless otherwise stated they are adapted for bushes on the dwarfing stock.—R. LEWIS CASTLE, *Ridgmont*.

A Chat on Daffodils.

A Historical Sketch by Peter Barr, V.M.H.

THE first extended printed notice we have of the Daffodil as an amateur's flower is in "Parkinson's Paradisus," published early in the sixteenth century, wherein is described about 100 varieties; but in those early days a number of bulbous plants were called Daffodils which are now placed in other families, such as *Sternbergia lutea*. With their deduction there remained three to four score Daffodils, most of which are now in cultivation. Parkinson remarks, when introducing the family in his "Paradisus," that he was setting the Daffodils in order, as no two catalogues agreed as to names. The amateurs of Parkinson's time, I take it, were very much as the Daffodil amateurs from then till the second half of this century, semi-botanical, as I shall hereafter show, and the catalogues he speaks of were merely private lists of the individual amateurs; and I might just mention what we now call old-fashioned flowers were much cultivated by amateurs of Parkinson's day, such as Primroses, Cowslips, Oxlips, Tulips, Carnations, and a host of other things, which would delight the hearts of amateurs of the present day. I almost wonder that some enterprising publisher does not reprint "Parkinson's Paradisus."

Before Parkinson's day we had Gerard's "Herbal," with one Daffodil, *Pseudo-Narcissus*, of English meadows. Since Parkinson's day many works have been published, and curious information given as to doubling of Daffodil flowers; but these works, so far as I have looked into them, were largely copies from Parkinson, so far as the Daffodil is concerned. We may safely say from Parkinson's day till the beginning of last century little or no addition to our Daffodil knowledge was made. When the Daffodil was taken up, early in the nineteenth century, by Salisbury, Ellacombe, Sweet, Haworth, Herbert, and others, considerable progress was made in adding to our knowledge of the Daffodil. Salisbury, who grew his Daffs at St. John's, near London, was a Yorkshire man, and reputed a good botanist of some standing, but worked somewhat in a corner, and would have been quite forgotten but for his friend, Mr. Gray, of the British Museum, who captured all his manuscripts when they were about to be burnt, and placed the same in the British Museum, where they can now be referred to. Gray made some extracts from these MSS., and circulated the same privately, with the view of showing the character of the man, and giving a short biographical sketch of his life.

Nearly all the other Daffodil amateurs entrusted their collectings of Daffodils to Mr. Anderson, curator of the Physic Gardens, Chelsea, London, who was a famous botanist and a great centre of botanic thought in his day, and there all resorted to study their favourite flower. Ellacombe was a missionary in the neighbourhood of Leicester Square, and latterly became Rector of Bitten, in Gloucestershire, and there he grew all the Daffodils he could get together, and, when removed to another parish, was succeeded by his son, now Canon Ellacombe, whose garden is famous, and who has been a contributor to the garden papers for long years, and who has contributed in book form to the gardening world a good deal of garden lore. The elder Ellacombe, after leaving Bitten, made bells a study, and told me he did missionary work amongst the famous bellringers of the midland and northern counties of England. By becoming a famous bellringer himself, and through taking part in bell-ringing contests, he was able, in a great measure, to reform the drinking habits of this class. When I last saw him, bordering on ninety years of age, he told me he was still able to mount the highest towers in Europe, but could not walk one mile on level ground. Sweet was eminent as a botanist, compiled a valuable botanical dictionary, which is still much referred to, and wrote an illustrated work entitled "The British Flower Garden"—a work much sought after for libraries at the present day. It is scarce and expensive, and contains some excellent Daffodil illustrations. Sweet died in a lunatic asylum, and his friends say that it was owing to his having paid his old friend Ellacombe a visit at Bitten when the Daffodils were in bloom, and got so confused with the number and variety, on his return to London he had to be put under restraint. Often when working on the Daffodil, friends, solicitous of my well-

being, used to remind me of poor Sweet, and to see I did not go the same way. My answer was, "I grow a bed of *Helleborus antiquorum* close at hand as corrective."

To be concluded.

Preparing Botanical Specimens.

THE following directions for the preparation of botanical specimens which we reprint from the September number of the "Journal of the Department of Agriculture of Western Australia," cannot fail to be of interest to readers of the *Journal of Horticulture*.

Specimens for the herbarium are prepared by pressing plants or parts of plants between sheets of absorbent paper. The whole plant with roots should be preserved whenever practicable, but if too large the most important parts are to be taken—namely, the flowers, fruit, leaves, and in some cases the root. A flowering branch of a tree or shrub may suffice, while long thin plants may be doubled up once or oftener before pressing, and very bushy ones should have their branches thinned out; but each specimen after it is pressed should not exceed 16 inches in length by about 10 inches in width. The leaves springing from the top of the root should be preserved as well as those situated higher up, and also the root itself, especially if different from the ordinary fibrous form. Specimens should be so chosen as to furnish the greatest possible amount of information about the plant represented, and should be so prepared as to preserve as far as possible the natural appearance of the plant.

While the specimens are still fresh, spread each out on a layer of several sheets of absorbent paper, cover carefully with another layer of sheets, and repeat the process till a number of such layers are built up, taking care to avoid placing the thicker parts of the specimens at the same spot. Pressure is then applied, gentle at first, but increased the next day, the object being to keep the parts of the specimen spread out so as to be well displayed when dry, without unduly crushing the soft and delicate tissues. Harsh spiny plants may require to be placed between boards and stood upon in order to flatten them.

Next morning the papers will be quite damp, so that the specimens must be changed into dry sheets daily for the first three days, then every other day till the eighth or tenth, by which time most plants will be dry. If enclosed first of all within a folded sheet of strong tissue paper or the thinner qualities of newspaper, this sheet may be more easily transferred from the damp to dry paper without disturbing the specimens, and this method is specially desirable for minute or delicate plants, or for those that show a tendency to fall in pieces while drying.

Fruits, seeds, bulbs, sections of wood, barks, gums and malformations, if detached from the plant, should be accompanied by or labelled similarly to a branch (if possible with flowers) of the plant bearing them, and they should be wrapped in paper or placed in calico bags when dry.

Each specimen and bundle of specimens should be labelled from the first, especially when travelling, with the place and date of collection, and any remarks on their mode of growth, prevalence, soil, native names and uses, should be written down on the spot if possible.

When the specimens are thoroughly dried, pack them in single layers on sheets of newspaper, make up into a parcel protected by pasteboards on the outside tied on rather firmly, and securely wrap in paper for transmission by post or carrier.

Materials required.—Drying paper, usually about 18 inches x 11 inches; the thick absorbent paper used by grocers does very well, or folded newspapers, cut to the required size. "Spongia" blotting paper is excellent, and stands wear and tear well. Folded sheets of thin unsized paper for enclosing specimens to be pressed. Pasteboards, same size as papers, for separating different parcels or protecting delicate from rough specimens. Pair of outer pressing boards of well seasoned wood, 18½ inches x 11½ inches. Pair of straps for applying pressure, or stout cord, to be tightened with a rack pin. Waterproof covering, to be applied under outer boards, only as long as bundle is exposed to wet weather.

Ancient Timber.—Experts seem to be divided as to which of the two hard woods—Jarrah and Karri—of Western Australia is the more durable. Jarrah wood piles 2 feet 2 inches square, driven thirty-three years ago at the Largs Bay pier, were found on examination to be as sound as the day they were put in. Some specimens of Karri wood taken from a fence were examined in London, and though the wood had been underground for twenty-five years it was perfectly sound. A specimen of Jarrah wood under similar circumstances showed serious decay. Timber of the Tamarisk has been found perfectly sound in the ancient temples of Egypt in connection with the stonework which is known to be at least 4000 years old.

NOTES & NOTICES

Recent Weather in London.—Considerable quantities of rain have fallen in London since last Saturday. There have been heavy showers on each day, but more particularly on Tuesday. At the moment of going to press on Wednesday it was fine and very mild.

New Open Space for Tottenham.—In one of the most congested parts of its district, the Tottenham District Council has acquired the Chestnuts estate of several acres. There is a large residence, which is to be utilised as a branch reading room. The ground will be opened next month by Mr. Littler, the chairman of the Middlesex County Council, which has contributed £2000 towards the purchase.

An Edict Against Long Skirts in Parks.—The local board of health in one of the districts of Vienna has placed placards in all the public gardens and parks directing the women who visit these places to hold up their skirts if they trail upon the ground. The notice states that as these enclosures are devoted to the recreation of persons desirous of escaping from the dusty town, the authorities forbid dust to be swept there into heaps by trailing skirts.

Beckenham Horticultural Society.—On Friday evening, Mr. Burge in the chair, the members mustered in strong force to listen to an essay on "Bulbs," by Mr. Harris, of Croydon. The essayist passed under review most of the bulbous plants that are used for the embellishment of the garden, both inside and out, and touched upon their culture generally; and as he proceeded emphasised many points of detail. Early planting was insisted on, and on no consideration should crude manure be used. Spanish Irises received special commendation, on account of their ease of culture and great variety. Freesias, Lilliums, Ixias, and other of these floral gems were dilated on. A hearty vote of thanks was accorded to Mr. Harris for his excellent and instructive essay. The meeting room on this occasion presented a bright appearance, for Messrs. Peed & Sons had placed upon the table many varieties of the fibrous-rooted Begonias, including the beautiful Gloire de Lorraine, and its white counterpart Caledonia. From the Orchid houses of R. Simonds, Esq., Woodthorpe (gardener, Mr. Day), came some splendid cut blooms of Vanda cœrulea, Lælia pumila var. præstans, and D. phalænopsis Schröderianum. From D. Link, Esq., Fairlight (gardener, Mr. Trowel), came Oncidium incurvum, carrying two spikes of its fragrant flowers; also some well-grown Lily of the Valley. To these gentlemen a vote of thanks was unanimously accorded.—T. C.

Royal Horticultural Society—Fruit Culture in Somerset.—Assuming that the illustrations given by Mr. Ettle in connection with his recent lecture on mistakes in fruit culture really represented the high-water mark of fruit culture in Somerset, then is it very evident that the fruit culture instructor has much need to be abroad. It is difficult to assume that in so fine a western county there is not to be seen any of those higher forms of fruit culture such as may be found in some counties nearer home; but possibly such evidences are limited to private gardens. But it is not difficult to understand that matters in relation to fruits, and the illustrations exclusively concerned Apples, are in Somerset of a very crude nature, seeing that the primary object of the growers seems to be converting the fruits into a wretched body-starving liquid yclept cider. Surely that is a matter of the very least importance to the Fellows of the Royal Horticultural Society. Indeed it was only too evident that hearers of Mr. Ettle and observers of his pictures thought that his show was a singularly elementary one, such as might indeed have interest in a cider-growing district, but could have none in London. Certainly it may have led on the part of some hearers to painful reflections that in this boastful and proud England such things should be. It is charitable to assume that the council of the R.H.S. in accepting the offer of such a lecture looked for something of a far more advanced character. The mention of prices paid for young trees was amusing, and one would like to learn what Messrs. Bunyard and Pearson thought of them, also as to the condition of the nursery trade in Somerset, that could turn out trees infested badly with the woolly aphid as shown. The general conclusion is that even now, in spite of all that has been spoken and written, hardy fruit culture is in this country terribly backward, and that not one or two, but a thousand instructors are needed to act as fruit culture missionaries.—A. D.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, November 6th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "Insecticides, Spraying for Fungi, &c." will be given by Mr. R. Newstead, F.E.S., at 3 o'clock.

Devon and Exeter Gardeners' Association.—The meetings of the autumn session will be held in the Guildhall, commencing punctually at eight o'clock. Wednesday, 14th November, Mr. H. Hemsley, Royal Nurseries, "Herbaceous Flowers for Exhibition;" Wednesday, 28th November, Mr. George Ryce, B.A., lecturer on technical agriculture for the Devon County Council, "Spraying Potatoes and other Plants with Chemicals, to Prevent Disease;" and Wednesday, 12th December, Mr. T. Slade, Poltimore Park Gardens, "Malmaison and Tree Carnations."

Camberwell's New Open Space.—On Saturday, in Sumner Road, a piece of land formerly used for nursery purposes and the site of an old residence and some greenhouses having been cleared, was declared open as a public recreation ground. The step to secure this local boon was initiated in June, 1897. In November, 1898, the vestry decided to purchase the site for the sum of £1000. Towards this amount the County Council voted £500, and the Metropolitan Public Gardens Association consented to lay out the space, generously defraying one half the cost.

Isle of Wight Experimental Garden.—During the past three or four years the Isle of Wight County Council has been laying out a garden at Newport for purposes of experiments. We are now favoured with a list of the fruits grown for trial therein, both in the open, on the walls, and under glass. If the authorities wish to make their reports of value to growers they must be more explicit in their remarks on the several varieties; to simply say "well known" after any fruit gives no indication of its value for cultivation in any particular form in the district. The selection of varieties is sufficiently excellent to indicate the presence of a sound judge, but the spelling is too faulty for a publication whose value is presumably wholly educational.

The Royal Gardeners' Orphan Fund.—It will be gratifying to the many personal friends of the late Mr. James Martin, so long the respected manager of Messrs. Sutton & Sons' nursery at Reading, to know that as the result of the appeal made by the executive of the Reading and District Gardeners' Mutual Improvement Association for subscriptions towards a "James Martin Memorial," the sum of £135 has been raised and handed over to the Royal Gardeners' Orphan Fund. The committee of this institution acknowledges its receipt with grateful thanks, and will apply the sum placed at disposal strictly in accordance with the object for which the memorial was raised. At a meeting of the committee held on the 26th ult., it was arranged that an election of candidates shall take place at the annual meeting on February 15th next, and nominations for the same will be received by the secretary up to December 21st.

St. John's, Sevenoaks, Gardeners' Society.—"The Garden and its Worth," was the subject of an interesting lecture delivered by Mr. H. Cannell, sen., at the usual meeting of the St. John's Gardeners' Society. The chair was taken by the president, Mr. Alfred A. Clark, who was supported on the platform by Mr. Arthur C. Baily, one of the vice-presidents. The lecturer illustrated his remarks by a special collection of very fine fruit and vegetables, including Onions of enormous size, some weighing 3 lbs., Parsnips about 3 feet long, Cauliflowers, Cabbages, Beet, Leeks, and Carrots. Mr. Cannell, who is a vegetarian, pleaded for vegetables to have the first place at a meal, instead of the secondary place, as at present, in most English homes, and gave it as his conviction, grounded on experience, that we should all enjoy better health if we ate more vegetables and fruit instead of meat. To show the value of some kinds of vegetables in the winter, Mr. Cannell brought with him a dish of cooked Beans, the variety called The Czar, a white Runner Bean. These are much larger than the Haricot, and can be grown by anyone who has a garden, however small. He also brought a dish of cooked Gourd, the American Squash. Both these dishes were handed round for the audience to taste, and the general opinion was that they were excellent. Mr. Cannell spoke for about an hour and a half, and at the close, after answering several questions, was accorded a unanimous and hearty vote of thanks. The secretary of the society, Mr. E. Greenway, then proposed a very hearty vote of thanks to the chairman and vice-chairman, and this was carried unanimously.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Wargrave Gardeners' Society.—At the recent fortnightly meeting, Mr. T. Haskett, gardener to J. W. Rhodes, Esq., Hennerton, read a most instructive paper on "Celery Culture." Seed sowing, pricking out, trenching, earthing up, watering, and other points were described, as were also the pests and remedies for their eradication. A discussion took place in which many members joined.

Evesham Chrysanthemum Society.—The schedule of the prizes to be offered for competition in the Town Hall, Evesham, on Wednesday, November 14th, has been forwarded by the honorary secretary, Mr. G. Witts, Bengeworth. Classes for Chrysanthemums number half a score, the remaining two dozen being devoted to plants, fruits, and vegetables. The principal class is for a group for which an 8-guinea challenge cup and £2 form the first prize. In the cut bloom section £7 are offered in three prizes for twenty-four Japanese, distinct. The hon. sec. will furnish all necessary particulars on application.

Bradford Chrysanthemum Exhibition.—The fourteenth annual show of the Bradford and District Society is to be held in the St. George's Hall, Bradford, on November 16th and 17th. The display brought together in this busy town is invariably a fine one, and there is no reason to suppose that this year will prove an exception. The classes number upwards of four dozen, and it is clear that the committee has made every endeavour to meet the requirements of all growers. The honorary secretary is Mr. R. Eichel, Eldwick, Bingley, who will forward schedules and any necessary information to prospective exhibitors.

Leamington Chrysanthemum Show.—The exhibition of the Leamington, Warwick, and District Chrysanthemum Society, which has been fixed for November 22nd and 23rd, will be held in the Royal Assembly Rooms, Leamington Spa, and a satisfactory show is anticipated. The schedule comprises just thirty classes, some of which are open to all comers, others are restricted to amateurs and single-handed gardeners, while cottagers are by no means forgotten. Chrysanthemums in the form of cut blooms and groups are well catered for, as also are fruits and vegetables. Schedules and full particulars may be obtained from the secretary, Mr. Arthur J. Nicholls, Portland Street, Leamington.

Bolton Chrysanthemum Show.—The schedule of the Bolton Horticultural and Chrysanthemum Society, which we have just received, embodies about sixty classes, including those for plants, fruits, and vegetables, as well as Chrysanthemums. The class that should be productive of the finest display and the keenest competition is for eighteen each Japanese and incurved, for which £9, £6, and £4 are offered as the prizes; to the first is added a silver challenge cup value 20 guineas, which becomes the property of any grower winning it twice in succession. Silver cups are also offered in other classes for cut blooms and for plants. The show is to be held in the Albert Hall, Bolton, on November 16th and 17th, and the secretary (Mr. J. Hicks, 16, Markland Hill Lane, Heaton, Bolton) will send all needful information.

Bristol Gardeners' Association.—The fortnightly meeting was held at St. John's Parish Room, Redland, on Thursday, October 25th, Mr. G. Brook presiding. The lecture was given by Mr. Shaddick of Stoke Bishop on "Croton Culture." He claimed at the outset that for decoration hardly any plant equalled the Croton, it being equally valuable for table, room, or conservatory decoration. He dealt very clearly with the cultivation, showing the various methods of propagation, urging the necessity of a light house, well heated, both for rooting cuttings, and for after treatment, giving also many useful hints on potting. He enumerated the many insect pests to which Crotons were liable, and described his plan of getting rid of them, concluding with a list of the varieties he thought the most useful. A good discussion followed, and Mr. Shaddick was heartily thanked for his lecture on the motion of the chairman. Prizes for twelve culinary Apples were awarded Messrs. Poole, Atwell, and Ross; for two Pitcher plants to Mr. White; certificates of merit went to Mr. Raikes for Croton, Mr. Poole collection of vegetables, and Mr. Newberry *Odontoglossum grande*. The judges also recommended a certificate of special merit to Mr. White for Pitcher plant.

National Amateur Gardeners' Association.—A lecture on "Sweet-scented Leaves and Fragrant Flowers" will be given in the Great Hall, Winchester House, Old Broad Street, on Tuesday, November 6th, at 7 P.M., by Mr. Donald McDonald, of Messrs. Carter & Co. The chair will be taken by Sir George C. M. Birdwood. The secretary of the association is Mr. V. Stacy Marks, 1, Anglesea Road, Kingston-on-Thames.

Middleton Chrysanthemum Society.—So far as we are aware this is the only society that keeps its annual show open on the Sunday and we commend the committee for so doing, as the influence of flowers on the mind of everyone cannot be other than for their good. The exhibition opens on Saturday, November 17th, in the Co-operative Hall, Middleton, and continues over Sunday. The schedule is not an extensive one, as it only embodies thirty-six classes, but we hope that the prizes will be sufficiently good to insure an excellent display. The secretary is Mr. J. Entwistle, Westfield, Middleton, to whom all applications for information should be addressed.

Sheffield Chrysanthemum Society.—For several years the exhibitions held under the auspices of this society have occupied a leading position among Yorkshire fixtures, and the present one, to be held in the Corn Exchange on November 9th and 10th, will in all probability, thoroughly uphold the well earned reputation. The schedule is a particularly generous one, and the keen northern growers will doubtless make good fight for the handsome prizes. In corroboration of this we may cite the classes for twenty-four incurved and twenty-four Japanese, both in not less than eighteen varieties, which have prizes in each case of the respective values of £7 10s., £5, £3, and £2. Then we find a total sum of £14 allocated to a class for a group of Chrysanthemums with other flowering and foliage plants. In all these instances the society adds its silver medal to the premier prize. General plants and fruits also receive due attention, while the requirements of the smaller growers are by no means overlooked. The last day for receiving entries is Saturday, November 3rd, and they must be forwarded to Mr. William Housley, 28, Joshua Road, Nether Edge, Sheffield, who is the energetic secretary.

The Winter—Is it to be Severe?—Snow has fallen in Scotland, and the mountain tops are wearing their white caps. This reminds people that we are on the verge of winter, and the question, "Will it be a hard one?" is anxiously asked by many persons. A Paris weather prophet, one M. Jaures, has attempted a reply. He is very pessimistic. We are, he says, to have the coldest winter known for many years. He is confident of this, but is rather vague as to his reasons why. Householders, however, with the high price of coals in their mind, need not be too despondent at this French prophecy, for a contemporary reminds us that we have a British authority much greater than the Gallic one, whose opinions are otherwise. This is the famous White of Selborne, who, being dead, yet speaketh. The quaint old author and keen observer of Nature held that a cold winter was extremely unlikely when there had been a dry summer. The earth, he said, must be saturated with rain before a really cold winter was possible. The past summer was exceptionally dry, and, relying on White, the deduction is that the coming winter is not greatly to be feared.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
October.										
Sunday.. 21	N.	deg.	deg.	deg.	deg.	ins.	deg.	deg.	deg.	deg.
Monday.. 22	N.N.E.	44.4	41.4	50.3	32.4	—	49.1	53.2	54.8	22.1
Tuesday 23	S.S.W.	44.9	41.4	50.3	36.9	0.02	47.3	52.5	54.6	23.2
Wed'sday 24	W.S.W.	47.7	47.2	57.6	38.4	0.01	47.9	51.9	44.5	28.6
Thursday 25	W.S.W.	52.8	51.7	58.4	46.2	0.08	49.5	52.0	54.3	31.7
Friday .. 26	S.S.E.	54.9	53.5	56.7	52.2	0.06	52.2	52.4	53.9	52.0
Saturday 27	W.N.W.	48.4	45.3	49.5	43.8	0.16	51.0	52.8	53.9	33.9
		48.4	44.0	52.6	37.4	0.03	47.9	52.4	53.9	29.6
MEANS ..		48.8	46.4	53.6	41.0	Total	49.3	52.5	54.3	33.4

A week of very dull, showery weather, with cold winds, especially at night.



The Mystery of Colouring in Fruits and Leaves.

IN any attempt to fathom the mysteries connected with this subject we must first consider what conditions are most favourable for its greatest development. According to my observations the colouring is best when in early autumn, after the fruits and leaves have become fully developed, cold nights are succeeded by bright days. Mr. Bunyard tells us on page 291 that the colouring is backward this year in Kent. In the neighbourhood of Bath, however, colour was put on early, and is much better than usual. Some fruits of Louise Bonne Pear, for instance, were it not for some spots on them, almost rival the Californian fruit of that variety, while John Downie Crab, as early as the end of August, was beautiful beyond description. Ampelopsis Veitchi also put on its warm colour very early.

August was not by any means a warm month. I have read somewhere that the average temperature was 10° lower than during the same month last year, but I cannot say from memory whether that statement refers to this locality only or to the whole country. During the first week in September we had slight frost on three mornings, that on the morning of the 4th being sufficient to kill many leaves on the Vegetable Marrows in low situations, and to give Kidney Beans a severe check. The days were very warm and bright. It would be interesting to know if similar weather occurred in Kent.

When we have the atmosphere surrounding the plants to some extent under our control, as with indoor fruits, we can, by simply preventing the temperature falling too low, postpone the colouring of the leaves for a considerable period; and this is practised by myself, and doubtless many others, with Vines, because we know that the green leaves are not only necessary to bring the fruit to perfection, but that to quite the end of autumn they are operating in storing up material for use during the following season. In connection with this it must be remembered that Vines in a normal condition do not make any root extension in spring, consequently can have no root hairs, and presumably take up little or nothing but water till the first leaves, (which always differ through the whole season to those subsequently produced) have grown to nearly their full size. All other fruits, as far as I know, make roots before they make leaves. But it may be argued that the colouring of leaves sometimes commences indoors, notably with Gros Colman Vine as early as midsummer. I have seen this happen repeatedly, and have proved that it can be altered during the following season by altering the method of feeding. I hope to make some remarks on this part of the subject another time.

Now for a little home-made science. Frost acts very quickly on the base of the footstalks of leaves and fruits. If it is severe it separates them altogether from the branches. If it is slight it causes a modification in the arrangement, checks the vigour of the plant, and the formation of the green colouring matter (chlorophyll). Consequent on a check of vigour, respiration or breathing is also checked, effete matter is retained in the leaves, which, as it accumulates more and more, block the breathing pores; chemical changes, which I cannot attempt to describe, take place, causing discolouration and finally decomposition.—WM. TAYLOR.

Potatoes from Germany.

THE statement on page 380, that more than half the Potatoes required this season will be foreigners seems unlikely to be realised. The sense of proportion is utterly wanting in that connection, as appears on the very face of the statement itself. It is there admitted that four million cwts. have come from abroad in the past—I presume annually, or for the season of twelve months—against 120 million cwts. supplied by this country, thus between 3 to 4 per cent. only in the former case. What a perturbation of trade would be implied if over 50 per cent. Potatoes were required from abroad this year, and what a stupendous shortage of the home produce at the same time suggested! If this were true, Potatoes would probably be worth £10 per ton by this time.

On page 390 in "Work on the Home Farm," we see that Potatoes sell at £4 per ton for a good article, and no alarm is sounded, so that we do not seem to be in sight of the realisation of the portentous statement. As Potatoes arrive from abroad, I think, usually as part cargoes of steamers of regular lines of a tonnage mostly under 1000 tons, in which a complement for Potatoes might on an average among the

miscellaneous cargoes reach 300 tons in each, it would require not less than 10,000 cargoes to arrive in the twelvemonth, or 200 steamers a week, in order to supply our reputed deficiency of three million tons of Potatoes.—H. H. RASCHEN, *Sidcup*.

Mulching Asparagus Beds with Manure.

I CAN fully endorse the opinion and remarks of Mr. Welch on page 377 respecting the action of heavy manure mulches put on in winter. The custom once obtained here of doing so, but on taking up roots for forcing I found each season such a quantity of decayed crowns and a poor growth in spring, that the cause was set down to be from the manure mulching. Since that time it has been discontinued, and as with Mr. Welch and his friend, my annual crops are considerably heavier and better. Roots lifted for forcing now bear no comparison with those of former times, which is an all-round gain. It is not a little remarkable how long Asparagus will continue in a profitable state; like your correspondent, I can point to beds that have yielded their annual crop of heads for over eighty years, and are still as healthy and productive as young ones. Asparagus does not like stagnant soil; roots and crowns will decay wholesale in it, especially in that of a heavy nature. In such land, if draining cannot be carried out, they are better planted in raised beds, and in preparing for planting dig fairly deep trenches the width of the intended beds, and fill the bottom with any kind of materials of an open nature, so that the water can gravitate easily through it. Salt, we know, is a dressing commonly employed, and in which Asparagus finds a stimulant, but something more is needed. Short manure put on after Christmas, not in heavy dressings, does good, so does the residue obtained from the "smother," and the sooner this is put on after it is burnt the greater value is imparted into the soil.—R. A.

Quality in Fruit.

MR. RICHARDS (page 383) no doubt has some grounds for judging the quality of fruits as below the average this season even where proper thinning has been carried out. In its general application I am of the same opinion, though exceptions are met with sometimes. The prolonged drought which must have a marked effect on the size and quality of fruit trees in soil not of a holding nature. I incline to the opinion that the absence of heavy rain at the end of the growing season is more favourable as a prospect for keeping, especially in the soft fleshed midseason and early winter Apples. I have observed in some years that Apples of this class keep badly after autumn rains, the inference being that the sap is liquified by the superabundance of land moisture, and this passing into the fruit disturbs their nature, and steady development after storage. Apples have a trait which often disappoints exhibitors, it may be only a few days before a show fixture, by bursting their skin. In these instances the flesh is found to be soft and useless, an inward fermentation having apparently been set in motion from some unexplained cause. Pears do not seem to be affected quite in this way, though core rotteness is a trouble more common in some seasons than in others.

Mr. Richards' experience does not correspond with mine as affecting the flavour of Marie Louise d'Uccle, for I find it very good, and this year in particular. Soil and stock make considerable difference to Pears, as also does the season. I find generally that this Pear is set upon by the birds in a marked manner. The season of usefulness may be extended by planting Williams' Bon Chrétien on differing aspects as well as espaliers, but the highest flavour comes from trees in the open. Souvenir du Congrès I have never planted, because its larger size and shy bearing do not place it before Williams' in my opinion for everyday dessert, and it ripens at about the same time. Mr. Bunyard describes Dr. Jules Guyot as sometimes worthy of the dessert, resembling Williams' Bon Chrétien in appearance, and better as a cropper. Faulty flavour is thus acknowledged by Mr. Bunyard, which coincides with the experience of Mr. Richards. I cannot think that the "Dr." can expect to take a favourable position with Williams' Bon Chrétien, especially where this assumes its true character—size, colour, and full flavour—except where collections are grown for the sake of variety.

Beauty of Bath Apple has an attractive shape and skin, but it has a very short season indeed when it may be said to be good to eat. Irish Peach is better, and the old Harvest Apple is much nicer than Beauty of Bath eaten straight from the tree. I am pleased that Mr. Richards can speak so well of Duchess' Favourite. Duchess of Oldenburg a few years since had its praises loudly extolled, but its prestige has seriously declined. As a dessert it may please some, but its acidity is too pronounced for others, and for cooking it cannot supplant sorts like Lord Suffield, Stirling Castle, and Warner's King. It has one particularly good point, and that is its freedom in bearing even in a young state, but neither this nor its skin-deep beauty would tempt me to plant.—W. S., *Wilts*.



Forthcoming Shows.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the respective secretaries:—

- Nov. 1, 2.—BLACKHEATH.—F. Fox, The Gardens; The Cedars, Lee, S.E.
 „ 2, 3.—BATTERSEA.—J. O. Langrish, 167, Elsley Rd., Battersea, S.W.
 „ 6, 7.—BIRMINGHAM.—J. Hughes, 140, High Street, Harborne, Birmingham; F. W. Simpson, Corn Mills, Sixways, Aston, Birmingham.
 „ 6, 7.—BRIGHTON.—J. Thorpe, 53, Ship Street, Brighton.
 „ 6, 7.—COVENTRY.—J. Cooper, 31, Foleshill Road.
 „ 6, 7.—HANLEY.—W. J. Salmon, 24, Newcastle Road, Shelton, Stoke-on-Trent.
 „ 6, 7.—KINGSTON.—W. Hayward, Kingston-on-Thames.
 „ 6, 7.—SOUTHAMPTON.—C. S. Fudge, 6, College Terrace, London Road, Southampton.
 „ 6, 7.—WEST OF ENGLAND.—Charles Wilson, North Hill, Plymouth.
 „ 6, 7, 8.—NATIONAL CHRYSANTHEMUM SOCIETY.—R. Dean, V.M.H., Ealing, London, W.
 „ 7.—RUGBY.—William Bryant, 8, Barby Road, Rugby.
 „ 7, 8.—BOURNEMOUTH.—James Spong, Lindisfarne Gardens, Bournemouth.
 „ 7, 8.—BROMLEY.—W. Weeks, 29, Widmore Road, Bromley.
 „ 7, 8.—CARDIFF.—H. Gillett, 66, Woodville Road, Cardiff.
 „ 8.—LAUNCESTON.—Edward Leamon, St. Stephens, Launceston.
 „ 8.—WINDSOR.—Herbert Finch, Bank House, Eton.
 „ 9, 10.—ALTRINCHAM.—W. Hazlehurst, 40, Railway St., Altrincham.
 „ 9, 10.—ECCLES.—J. H. Bryan, 134, New Lane, Peel Green, Patricroft.
 „ 9, 10.—SHEFFIELD.—Wm. Housley, 28, Joshua Road, Sheffield.
 „ 13, 14.—BELFAST.—J. Macbride, Victoria Square, Belfast.
 „ 13, 14.—LEEDS.—W. Smith, The Gardens, Weetwood Hall, Leeds.
 „ 14, 15.—HULL.—Edward Harland, Manor Street, Hull; Jas. Dixon, F.R.H.S., 2, County Buildings, Hull.
 „ 14, 15, 16.—YORK.—G. F. W. Oman, 38, Petergate, York.
 „ 15, 16.—PARKSTONE.—T. K. Ingram, Parkstone Nurseries, Dorset.
 „ 16, 17.—BOLTON.—Jas. Hicks, 1, Beckett Street, Bolton.
 „ 16, 17.—BRADFORD.—R. Eichel, Eldwick, Bingley.
 „ 16, 17.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.
 „ 16, 17.—MACCLESFIELD.—W. Oldham, 153, Great King Street, Macclesfield.
 „ 21, 22.—BIRKENHEAD.—W. H. Yeo, 3, Clarendon Street, Birkenhead.
 „ 22, 23.—LEAMINGTON.—Arthur J. Nichols, Leamington.

National Chrysanthemum Society—Floral Committee, October 29th.

On this occasion the committee appeared to grasp the new regulation relating to the granting of certificates and awards, consequently they were able to get through their work expeditiously. There was a goodly number of novelties on view, but only the very best occupied the attention of the members present more than a few moments, clearly demonstrating the uselessness of sending varieties that are not either distinct or an improvement on existing varieties.

Mrs. J. B. Bryant (H. Perkins).—A variety already in commerce, reflexed Japanese of fine build, and a good warm rose colour with a silvery reverse (first-class certificate).

Miss Evelyn Douglas (H. Weeks).—A reflexed Japanese of gigantic proportions; a well built flower, rosy pink in colour; a grand variety (first-class certificate).

Scottish Chief (H. Weeks).—A yellow variety, somewhat pale with age, but with a good bright centre; of the reflexed Japanese type; long, narrow, curling florets; quite distinct (first-class certificate).

Mrs. G. Mileham (G. Mileham).—Japanese, a bright rosy pink with broad petals, having a light reverse. This promises to be a fine exhibition variety (first-class certificate).

Miss Millicent Richardson (C. W. Richardson).—A huge Japanese variety, amaranth with a silvery reverse; though somewhat dull in

colour it bids fair to eclipse all of the T. Carrington type (award of merit).

Calvat, 1899 (W. J. Godfrey).—An incurved Japanese of good form; a light silvery variety of large size, will no doubt make a good exhibition form (award of merit).

There were several varieties that the committee wished to see again. Some of the best were Kimberley, a good yellow Japanese; Miss Phyllis Rayner, a buff incurved Japanese variety, not unlike President Nonin, seemed to be a promising flower; another good flower that was ear-marked for future consideration, Pretoria, evidently a seedling from Mons. Chenon de Leche; Tom Towers was another notable variety, having long red florets with a gold reverse, but the flowers staged were too thin to secure an award. In the incurved section the committee wish to see again Henry Ellis, Bougainvillea, Ben Coombe, and Mr. A. Jack, none of which were particularly impressive. Many of the other varieties staged were pretty, but call for no comment, though there was one interesting sport, a bronze form of Soliel d'Octobre, which should make a good market variety.

Lily Mountford.

At the meeting of the Floral Committee of the National Chrysanthemum Society, held on Monday, October 22nd, and again before the Floral Committee of the Royal Horticultural Society on the 23rd ult., Mr. M. Gleeson, gardener to H. L. Bischoffsheim, Esq., Warren House, Stanmore, Middlesex, exhibited Chrysanthemum Lily Mountford, receiving in the former instance a first class certificate, and in the latter an award of merit. In both cases the honours were thoroughly deserved, for this is one of the most magnificent introductions that have been seen of late. The flower is of the largest size, with reflexing florets sometimes half an inch broad; these incurve very slightly at the tips, showing the white reverse and enhancing the beauty of the flowers. The general colour is very rich rose with a pronounced suffusion of purple; some of the flowers have a considerable amount of white in places. The plant is of compact habit, and during the three or four years that Mr. Gleeson has been proving it he has found it a remarkably easy and reliable grower. We understand that the entire stock has passed into the hands of Messrs. W. Wells & Co., Ltd., Earlswood, for distribution. In fig. 110 we give a photographic reproduction of Lily Mountford, which will, we think, become quickly popular for exhibition purposes.

Old Chrysanthemums.

THERE appears to be such a rage for new varieties that a considerable number of very handsome ones, more especially of the Japanese class, are discarded really before they are superseded. We often think that if some good grower would have the courage to cultivate for show a collection of varieties that were favourites a few years back and pit them against those of to-day, such a collection would not be so far behind as many imagine.

To begin with the crimson E. Molyneux. This, of course, is seen still, but seldom in the character of years back. Madame C. Audiguier, tall in growth, but so distinct and striking in its mauve coloured incurving blossoms. Triomphe de la Rue des Châlets, another sort so distinct that nothing has come to replace it in colour. Specimens of it were formerly seen that were likened to 32-size pots turned upside down. The colour is like flower pots when new. Thurnburg; this rich yellow used to be seen of fine build and size; the form so unlike anything else. Then in Belle Paule we had a flower with beautiful style as regards form, and the picotee shades made a telling thing. Sunflower, in its deep rich yellow tint, and the long drooping florets, formed a rich bloom. The exquisite white Mlle. Lacroix would be appreciated if seen now in the faultless condition of a few years back. Criterion, again, was distinct in colour. Boule d'Or used to be seen big enough to have a place upon the enlarged boards now in use. Jeanne Delaux is almost forgotten, yet in its rich dark crimson shade of colour it would be very welcome among the newer sorts. The light bronzy terra cotta Col. W. B. Smith, is a most handsome bloom when the incurving form is there. The above-named are a few which come readily to my mind.

It may be that through high culture favourite Chrysanthemums deteriorate, or perhaps, as we think, less attention is paid to their cultural wants when new ones are forthcoming; but certainly we recollect specimen blooms of them that would compare favourably with those most highly prized at the exhibitions of more recent date.—S.

Damping of Blooms.

UPON the whole I think damping of Chrysanthemum blooms is not so prevalent as it used to be at one time. Probably this is because the culture and management are better understood by the cultivators of large blooms, who adopt the most sensible methods of treatment. The primary cause of damping lies in the deposition of moisture on the blooms owing to the atmosphere of the house being in a rather too humid condition. This may be brought about in various

ways, such as insufficient ventilation, injudicious watering, and a cold, still, stagnant atmosphere, extending over a long period.

Large blooms are liable to damp because of the extraordinary mass of florets they contain; their liability is increased when the conditions necessary to prevent the evil are totally ignored. Some cases of damping can often be traced to omitting housing plants with forward buds soon enough. When the buds have swollen to the extent that they begin to show colour, and the plants still remain outdoors during heavy night dews or drizzling rains, moisture will find its way

2 feet, because, if nearer, they are more subject to rapid and sudden changes of temperature. A high temperature and strong sunlight will be trying for the blooms, especially crimsons and other dark colours, while a low temperature will quickly bring a heavy deposit of moisture. Inefficient ventilation promotes damping. The top lights should be open on all favourable occasions, and when heat is employed to warm the structure. The bottom ventilators are best closed at nights and in damp weather.

When fogs prevail, as they do in November, great difficulty is



FIG. 110.—CHRYSANthemum LILY MOUNTFORD.

among them, and, not being able to evaporate, will cause the blooms to damp at a very early stage. This kind of damping is not very prevalent, but it is referred to as possible.

A damp condition of the structure in which the plants are housed is highly conducive to the evil of damping in the blooms, whether these are large or small. This condition may be encouraged by a leaky roof, spilling water about the floor and allowing it to lie in pools, and by watering the plants late in the day when there is not sufficient time for superfluous moisture to evaporate before nightfall. The blooms should not be too near the glass, never closer than

experienced in preventing damping. The wisest course is to keep the hot-water pipes warm and close the ventilators, dry up all moisture in the house, and apply as little as possible to the plants. A cold, damp, clinging fog has been known to spoil blooms on their way to exhibition.

High feeding has frequently been blamed for causing a tendency to damp, and there is without a doubt some reason for it. Nitrate of soda and sulphate of ammonia, if given frequently after the plants are housed, will undoubtedly promote the evil. These manures have the power to force growth, and rapidly developed blooms must have less substance and resisting power to damp than steadily built flowers.

After housing do not feed heavily, but give weak soot water, guano, or slight top-dressings of some dry general artificial manure, ceasing all stimulants before the blooms expand fully.

Crowding the plants encourages decay of the lower leaves. These hold moisture, and may induce mildew, hence pick them off so that more air can circulate about the plants. The blooms last much longer when cleanliness is observed. Maintain a dry, comfortable, buoyant atmosphere; examine the plants daily for water, and dry up all moisture from the floor before midday. These precautions, duly carried out, should insure freedom from damping, and thus extend the time in which blooms may be kept fresh, bright, and useful.—E. D. S.

Bush Chrysanthemums.

NUMEROUS as are the varieties of Chrysanthemums, it requires a certain amount of choosing to obtain those which are especially adapted for growing as bush plants. So many sorts are introduced which produce the popular large bloom that scarcely a thought is given to the habit of growth, and consequently one cultivates varieties that prove not a little disappointing. Suitable ones should not grow tall, and must have ample foliage; they ought to be free in the production of side shoots and blooms. These latter must have stiff stems as well as decided tints of colour to make them useful for cutting, or the plants themselves effective for the conservatory.

For a display to follow outdoor Chrysanthemums three excellent sorts are James Salter, pink; Lady Selborne, white; and Yellow Selborne. These are alike, except in the colour of their blooms, and are a fine type for bush plants. Ryecroft Glory, bronzy yellow, also forms a capital bush and flowers in October. A variety which has been grown for some years, Mons. Wm. Holmes, is not surpassed as an early crimson one; nothing better for the purpose is wanted. Souvenir de Petite Amie, white; and Soleil d'Octobre, yellow, are a fine pair in those colours. Général Paqué, a rather new variety, has flowers of a bright bronzy yellow colour, and is suitable for the purpose we are noting; it is an October variety. Source d'Or is too well known to require comment; in shade of colour it is unique. Mdle. Lacroix, white; and Annie Cliban, a pink sport from it, are excellent sorts that open their blooms rather before the bulk of Chrysanthemums.

Following the above in their time of flowering are Vivian Morel, mauve pink; Chas. Davis, bronzy buff; and Lady Hanham, rosy fawn shade, all distinct in colour, but similar in growth. They form a most useful trio. Wm. Seward, rich dark crimson, is still the best of the colour. Phœbus, yellow; and Miss Nelly Pockett, white, form nice bushes. In Mr. T. Carrington we have a variety which gives a distinct shade of rosy purple colour. Matthew Hodgson is a good variety of a light crimson shade; and Chatsworth, with its white and pink blooms, has quite a novel appearance.

The incurved varieties, C. H. Curtis, yellow; Globe d'Or, light buff; Mrs. G. Rundle, white; and Mr. G. Glenny, yellow, make capital bush plants, and form a change in a collection which is appreciated by many. Florence Davis, white with a green tint, must not yet be discarded, although it has been grown for a considerable period. R. Hooper Pearson, with rich deep yellow blooms, is an ideal variety for all kinds of decoration. So is Niveus, white; also its sport Pride of Ryecroft, light yellow. Western King, white, has first-rate qualities. Few varieties with deep crimson flowers are better than J. Chamberlain, and we find Master H. Tucker, if somewhat tall, very handsome as a bush plant. W. H. Lincoln, a yellow variety that may be had in bloom from October to January, is one of the most useful. Golden Gate, yellow, with a buff shade, is late, and forms a capital plant. Mrs. C. Bown, white, is not much known, but it makes a first-rate decorative subject. So does Marie Calvat, if allowed to open every flower bud. Restricted in this respect the large Japanese blooms do not come of good shape.

Undue disbudding spoils not a few fine varieties of Chrysanthemums, among them Australian Gold, light yellow, and Lady Byron, white. A newer sort, Amy Ensoll, mauve shade, makes a most effective bush plant. This is one of the seedlings of that successful raiser Mr. H. Weeks. Emily Towers, pink lined white, and Mrs. Coombs, rosy mauve, are two others of the same set that seem well adapted for this mode of culture. So, too, is Lord Ludlow, amber shade, a very distinct flower.—SPECIALIST.

Warren House.

For several years Mr. M. Gleeson has been building up a reputation for Warren House, Stanmore, for the excellence of the gardening operations carried out there, and from time to time he has demonstrated his skill as a general cultivator at various exhibitions. The products have not been confined to one section of the garden alone, but rather have covered practically all departments. Now that the estate is in the occupation of H. L. Bischoffsheim, Esq., Warren House bids fair to improve its excellent reputation, for this gentleman takes the keenest interest in horticultural matters, as also does Mrs. Bischoffsheim. The result of this is seen in the alterations that are

now in active progress and in contemplation, and when all these are complete the skilful management of Mr. Gleeson will make these gardens amongst the foremost within a twenty mile radius of London. It is not my intention at the present moment, however, to give notes of the pleasure grounds, with their fine trees and shrubs, the house and their occupants, or the flower gardens; these must remain until a more propitious moment, but to refer to the collection of Chrysanthemums. The plants of the autumn queen are now fast approaching perfection, and it is safe to say that for weight of bloom, refinement of form, and richness of colour the Warren House flowers would, as a whole, be extremely difficult to excel, and they reflect the utmost credit on the gardener and his assistants.

The bulk of the plants grown for the production of exhibition blooms are now occupying the central bed and side stages of a large and lofty span-roofed structure, and they are arranged to face both sides, the slopes falling from the centres. This is advantageous in one respect at least, as it shows at a glance the excellence of the entire display. It is absolutely necessary, however, for the visitor who would grasp the real significance of the quality and substance of the flowers to mount steps so that they may be looked down upon. Then, and then only, is revealed the amount of "stuff" in some of the fast developing buds; they become at once a revelation and an immensely increased pleasure. Amongst those that repay for looking closely into in the manner indicated are the several members of the Carnot family, which will, provided nothing totally unforeseen occur, make superb specimens; in fact the earlier ones are doing so already, but they will be easily surpassed by the later blooms.

No pretence of naming the whole of the varieties can be made, but a few may be specialised as being extra fine. Though there are many larger blooms, none better illustrates the correctness of the methods of culture adopted than the old Edwin Molyneux. This is simply perfect in the superb richness of the colour as well as in form and size. The celebrated grower after whom it was named would be delighted to see it in such grand form after a length of life that falls to the lot of few Japanese Chrysanthemums nowadays. Though it has been in cultivation so many years, it is still unrivalled in colour. The Carnots adverted to in the preceding paragraph include the type G. J. Warren and Mrs. Mease, and all are very fine indeed. Vivian Morel is remarkably deep in the flower and also in colour, while Chas. Davis and Lady Hanham have a form and refinement of colour that place them in the foremost rank. Anyone who desires further demonstration as to the distinctness of Mrs. T. Carrington and Australie have only to call at Warren House, and if they were sure before they will be positive then; there is no resemblance whatever in colour and very little in any other respect. A trio of whites in grand form are Madame Gustave Henri, Mrs. J. Lewis, and Florence Molyneux. Many of us have heard reports as to the ungainly habit of the last named variety, but here it was only just over 4 feet high, and carried a chastely beautiful flower.

One of the beauties of the collection is N.C.S. Jubilee, of which examples are very numerous and of superb quality. The large blooms of Prefet Robert stand out conspicuously amidst the others, as also does Phœbus, which is brilliant yellow in hue and of great depth. Two other grand yellows are J. R. Upton and Edith Tabor. Both Mrs. Barkley and Mrs. Coombs have hosts of admirers, and they are represented by several handsome examples. Master H. Tucker and Thos. Wilkins are beautifully grown, and the same may be said of Pride of Madford, Beauty of Adelaide, Mrs. White Popham, and Emily Towers. In addition to these, there are, of course, numbers of old and new varieties, but these need not now be noted with the exception of Lily Mountford, a magnificent exhibition variety that is illustrated and described elsewhere in this issue. All being well, this will be seen in many exhibition stands in 1901.

It will doubtless be interesting to many readers of the *Journal of Horticulture* to know that Mr. Gleeson ascribes a large measure of his success to care in feeding. In this respect he possibly differs from many growers, as with such varieties as the Carnot and Morel families, Australian Gold, Marie Calvat, E. Molyneux, Phœbus, Mrs. Harman Payne, Mons. Edouard André, Graphic, Oceana, and one or two others, he uses no manure in the soil; the plants are potted in pure loam and wood ashes. Then they receive three doses of nitrate of soda, two before the buds show, and one after, the rate of application being a 5-inch potful of the soda to 30 gallons of water. Beyond this and a small application now, Mr. Gleeson holds aloof from artificial fertilisers, relying on sheep manure in liquid form to provide the necessary food. That the treatment is approved by the plants is amply demonstrated by their present condition. This grower, too, places great stress on the time of rooting the cuttings. These are not all inserted irrespective of variety at one time, but at various periods which experience has proved to be most suitable. Needless to say the selection of the bud is regarded as of great importance. The Warren House Chrysanthemums are a pleasure and an education to behold, and I shall look to seeing them at home again in future years.—D. R.

Florence Molyneux.

WHATEVER may be said of the flowers of this new variety, I do not think there are many who would praise the habit of its growth. It is about the most ungainly of any in a large collection. The height of the plant is 8 feet before a flower bud has appeared; the stem thin, and its long drooping leaves an ugly distance from each other. And to add to these drawbacks one must, it seems, be content with but one bloom to a plant. It requires such a length of time before its bloom buds show that topping the plant in spring will only throw the grower behind; so that there is no means of shortening it with the hope of obtaining a fine bloom. Such *Chrysanthemums* are useless except for exhibiting.—GROWER.

Single Chrysanthemums.

THE single varieties of *Chrysanthemums* embrace some exceptionally attractive colours, and many of them are of more than passing interest for the size of the blooms they produce. Single *Chrysanthemums* are extremely useful for cutting, as the light character of the blooms renders them well adapted for table and other decorations. As a rule the plants bloom freely in November, and with care the blooms will outlast the larger and denser blooms of Japanese and incurved. House the plants now if not already under cover, and give them moderate space in a light, cool house.

The best flowers for decoration are produced on terminal buds, therefore only disbud the smallest round the central one on each shoot, when good and useful blooms will be developed. Weak liquid manure supplied to the roots improves the depth of colour in the blooms, at the same time aiding them in freely opening, but it need not be given after they are half advanced. Yellows, whites, pinks, maroons, chestnuts, crimsons, and terra-cottas comprise the principal colours. A good selection of varieties is usually to be seen at the Aquarium Show in November. The wide range of colour and types of beauty surprise those who have not hitherto made their acquaintance.—B. H.

Croydon Show, October 30th and 31st.

THE thirteenth annual show of the Croydon *Chrysanthemum* Society, held in the Public Halls, was the first of the metropolitan fixtures, and the executive may be congratulated upon the success that was achieved. The cut blooms, more especially in the Japanese section, were superb, the blooms having size, colour, and refinement. Incurved flowers showed greater variations, and comprised many coarse with many refined flowers. The challenge cup class was a complete success, and made a most admirable display, but we think that it would be preferable to keep the Japanese and incurved blooms of each individual grower side by side. Apples were shown in considerable numbers and of excellent quality; Pears were also very good, as were vegetables, but we are enabled at this moment of pressure to refer only to the principal classes in the *Chrysanthemum* section.

The competitors in the class for the Croydon Society's champion challenge cup numbered six, all of whom showed strongly. Thirty-six blooms were required in eighteen distinct Japanese and eighteen distinct incurved. The much coveted premier position was secured by Mr. F. King, gardener to A. F. Perkins, Esq., Oak Dene, Holmwood, who staged magnificent Japanese. The varieties were Princess Alice de Monaco, Hero of Omdurman, Vivian Morel, Mrs. Barkley, Chas. Davis, Mrs. H. Weeks, Phœbus, The Wonderful, E. Molyneux, Eva Knowles, Nellie Pockett, Sir H. Kitchener, Australie, Baron Reichter, Lady Ridgway, Madame Carnot, Lady Hanham, and Pride of Madford. The incurved included *Chrysanthème Bruant*, Lady Isobel, Perle Dauphinoise, Ma Perfection, Hanwell Glory, Princess of Wales, Globe d'Or, Robert Petfield, C. H. Curtis, Madame de la Drone, Duchess of Fife, Lucy Kendal, Watteau, Dome d'Or, Yvonne Desblanc, Madame Ferlat, Violet Tomlin, and Miss M. A. Haggis. Several of the flowers were rather over-large and inclined to coarseness, but others were most refined. Mr. G. H. Hunt, gardener to P. Ralli, Esq., Ashted Park, was second with Mrs. W. Mease, Phœbus, Mrs. H. Weeks, Mr. Hugh Crawford, Ed. Molyneux, Princess Alice de Monaco, Pride of Madford, and Graphic, Japanese; and C. H. Curtis, John Lambert, Empress of India, Madame Darier, Duchess of Fife, Violet Tomlin, and Miss M. A. Haggis incurved, as his best blooms. Mr. C. J. Salter, gardener to Mrs. Haywood, Woodhatch, Reigate, was third, his Japanese being the better of the two sections.

In the class for eighteen Japanese in not less than twelve varieties there were five competitors, of whom Mr. L. Gooch, gardener to S. Wickham Jones, Esq., Frocester Lodge, South Norwood, was placed first with Lady Hanham, N.C.S. Jubilee, Chas. Davis, Mrs. White Popham, Graphic, Australie, Mrs. H. Weeks, Mrs. G. W. Palmer, Madame Gustave Henri, Prefet Robert, Mons. Chenon de Léché, R. Hooper Pearson, Ed. Molyneux, H. Weeks, Australian Gold, Mutual Friend, Lady Ridgway, and Mrs. Coombs. Mr. C. Lane, gardener to E. H. Coles, Esq., Caterham, was second with smaller but very brightly coloured flowers. Mr. A. Ratcliffe, gardener to W. P. Dare, Esq., College Road, Epsom, was third.

Mr. A. Humphrey, gardener to P. Burnand, Esq., Reigate, was first

in the class for twelve Japanese, with foliage as grown, to be staged in two vases; the flowers were excellent. Mr. A. Osmond was second; and Mr. J. Slater, gardener to F. Link, Esq., Park Hill Road, third. There were five competitors.

For twelve incurved, distinct, Mr. C. Lane was an easy first with *Topaz Orientale*, *Chrysanthème Bruant*, Lady Isobel, C. H. Curtis, Ma Perfection, King of Yellows, A. Cannell, Empress of India, D. B. Crane, Baron Hirsch, Queen of England, and one other. Mr. A. Osmond was second with a stand containing several excellent and several poor flowers. Mr. G. Prebble, gardener to Miss Thrale, Shirley, was third. There were four exhibitors.

For six Japanese, one variety, Mr. Tebay, gardener to Mrs. Ryecroft, Everlands, Sevenoaks, was a handsome first with *Soleil d'Octobre* in superb form; Mr. G. Hunt was second with *Australie*; and Mr. A. Osmond, gardener to A. Kemp, Esq., Ross Road, South Norwood, third, with Edwin Molyneux. For six incurved, one variety, Mr. G. H. Hunt was first; Mr. Tebay second; and Mr. A. Osmond third, all with *Globe d'Or*. The winning blooms were decidedly too flat.

A 3-guinea cup was added to the premier award in the open class for a group of *Chrysanthemums*, and it was won easily by Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley, whose exhibit contained many superb flowers; the colours on the whole were somewhat too pale. Mr. J. T. Eason, gardener to H. Gammon, Esq., Woldingham Dene, was a good second; and Mr. A. Heritage, gardener to Sydney Ellis, Esq., Ross Road, South Norwood, third. There were three competitors.

For a group of miscellaneous plants a 2-guinea cup was offered. Mr. G. Eales, gardener to J. Glaisher, Esq., Heathfield Road, was first with *Bouvardias* and *Chrysanthemums* as his leading flowers. Mr. A. Dyer, gardener to T. Peacock, Esq., Chichester Road, was second, and P. Purnell, Esq., Streatham Hill, third. There were four exhibitors. Mr. A. Dyer was the only exhibitor, and secured the premier award in the class for a group of *Chrysanthemums* with an excellent arrangement comprising several excellent flowers.

In the class for twelve Japanese in not less than nine varieties the prizewinners were Messrs. G. Fox, gardener to Mrs. M. Pate, Ross Road, South Norwood, Mr. A. Osmond, and Mr. W. A. Hurst, gardener to A. F. Fitter, Esq., Streatham Hill. The winner showed Mrs. White Popham, Phœbus, Madame G. Bruant, Lady Hanham, Pride of Madford, Mons. Chenon de Léché, E. Molyneux, and Mrs. Coombs. This was a fine stand. Mr. Osmond's best flowers were Madame Gustave Henri, Mrs. H. Weeks, N.C.S. Jubilee, and Oceana. There were seven entries in this class.

For twelve incurved, not more than two of a sort, Mr. R. A. Thrale, Wellesley Road, Croydon, was an excellent first with Baron Hirsch, Brookleigh Gem, Lord Alcester, Mrs. N. Molyneux, *Globe d'Or*, Madame Darier, John Lambert, and Lord Wolseley. Mr. A. Osmond was a fair second, and Mr. A. Dyer third.

For six Japanese, distinct, the first place was assigned to Mr. C. Stew, gardener to J. Chisholm, Esq., Addiscombe Lodge, who showed *Vivian Morel*, Lady Hanham, Madame Gustave Henri, N.C.S. Jubilee, E. Molyneux, and Phœbus. Mr. A. Osmond was second, and Mr. G. Landon, gardener to H. E. Foster, Esq., Thornton Heath, third. For six incurved Messrs. A. Osmond, A. Dyer, and C. Stew, won in the order in which their names are given. The winner staged Madame Darier, C. H. Curtis, Brookleigh Gem, Baron Hirsch, D. B. Crane, and Jeanne d'Arc. Mr. A. Dyer was first for six bunches of Pompons with Mdle. E. Dordan, Black Douglas, Prince of Orange, Madame Marthe, St. Michael, and Adele Prizette. Mr. G. Eales was second. Both growers showed well. The foregoing seven classes were open to single-handed gardeners only.

The amateurs' division comprised seven classes, and some handsome flowers were shown. The chief was for twelve Japanese, with foliage as grown, to be staged in two vases. Mr. J. G. Mills was an easy first with handsome flowers. Mr. H. C. Crook, Addiscombe Road, was second; and Mr. E. T. Pearson, Church Street, Croydon, third. There were three entries. The principal award in this class took the form of a silver cup, presented by Jas. Epps, jun., Esq., Beulah Hill, who is himself an enthusiastic amateur *Chrysanthemum* grower.

Mr. F. T. Wright, Holmesdale Road, South Norwood, was first for twelve Japanese in not less than nine varieties with Mrs. J. Beisant, G. W. Palmer, Mrs. White Popham, Mrs. Coombs, Little Nell, Phœbus, Mons. Hoste, Mrs. C. H. Payne, Nellie Pockett, and Madeleine Davis. There was no other exhibitor in this class.

For six Japanese, distinct, Mr. F. Latreille, Camrose, South Norwood, was easily first with Lady Hanham, Mrs. Barkley, Mrs. Coombs, Mrs. W. Mease, Phœbus, and Madame G. Terrier. Mr. J. J. Pittman, Dingwall Road, Croydon, was second, and Mr. F. T. Wright, third. There were six entries. For six incurved, distinct, Mr. J. G. Mills, Croydon Road, Anerley, was first with Mr. J. Murray, Baron Hirsch, Emile Nouin, Lord Alcester, *Globe d'Or*, and Miss Violet Tomlin. Mr. F. T. Wright was second, and Mr. J. J. Pittman third.

Amongst miscellaneous exhibits, Messrs. H. Cannell & Sons, Swanley, contributed a collection of Apples; Mr. J. R. Box, West Wickham and Croydon, Apples and Pears; Mr. E. Smith, Orchard House, Edenbridge, excellent orchard-house grown fruit; I. House & Son, Westbury-on-Trym, splendid Violets; J. Laing & Sons, Forest Hill, excellent hardy fruit and plants; and J. Peed & Sons, Norwood, Apples and Pears. All of these growers staged in most creditable form. Messrs. W. Wells and Co., Earlswood, showed some grand Japanese *Chrysanthemums*.



The Mulberry Tree.—Much interest is taken nowadays in country things which grow in London. Fig trees flourish, as is very well known, in almost any part of London, though their fruit ripens not, and the same may be said of the Grape Vine. But there is certainly one tree which will flourish in the dingiest of London gardens, and, what is more, bear fruit there—the Mulberry. It is not long ago since a writer in a daily contemporary saw a Mulberry tree covered with fruit, black and red, in a back garden in Chelsea. Two men were climbing about the tree, relieving it of the black fruit, of which there was a large quantity, and a crowd of young urchins was gathered together in the street begging for a few berries. That is not a sight you see every day or year in town.

Potato Cultivation in Assam.—The following paragraph occurs in the annual administration report of Sylhet for 1899-1900: "Potato cultivation on the Upper Shillong Experimental Farm was attended with success. In March 1900, over 2 acres were planted, and the crop gathered in July gave a yield of 316 maunds, or more than fourteen times the seed used. One English variety, Abundance, gave a twenty-fold return, and as it is a hardy variety, will probably do well in the Khasi Hills. The average outturn per acre was 158 maunds, considerably more than the ordinary outturn in the Khasi and Jaintia Hills, which is stated to be 45 maunds for the first and 18 maunds for the second sowing. This large outturn was due to the use of oil-cake and Bordeaux mixture." The oil-cake was, of course, the manure used, the Bordeaux mixture being an insecticide, probably helped to keep down insect pests. [A maund varies from $\frac{1}{4}$ to $\frac{3}{4}$ of a cwt.].

Disease of Birch Trees in Epping Forest.—In Epping Forest, and in other districts around London, Birch trees have been attacked during the late summer by a disease which causes them to die very rapidly. In a portion of the Forest known as Lord's Bushes thirteen diseased and twenty-four completely dead trees were noted on June 10th within an area of about $1\frac{1}{2}$ acre. A few were attacked in the Forest in the summer of 1899, but it was not till this year that the disease appeared in such a destructive form. On Chislehurst Common, Hayes Common, and Keston Common no signs of the disease were evident in the early summer, but now dead or diseased trees may be found in great numbers. Trees attacked in a similar manner occur at Walton-on-Thames, by the canal between Weybridge and Woking, at Lewisham, and at Westerham. The disease is probably due to a micro fungus, *Melanconis stilbostoma*, Tul., for it appears on the branches of both living and dead trees. The diagnosis of the disease is almost precisely that of *Valsa oxystoma*, described as the destroyer of *Alnus viridis* in some parts of the Tyrol. It would be interesting, says Mr. R. Paulson in "Nature," to know if any readers have observed the disease in the Midlands or in the North of England.

Pear Conference.—It may interest many of the readers of the *Journal of Horticulture* to hear how this comparatively new Pear does in a town garden. The late Mr. T. F. Rivers, whose memory will always be green with fruit growers, sent me this Pear a few years since for trial, shortly after the great Fruit Conference, after which it is called, and which had received a first-class certificate. For the last two years the crop was comparatively light, but this year was unusually heavy, and the fruits magnificent. I am forwarding you specimens to see. I am satisfied you cannot do Pear growers a greater favour than by making this variety better known. The following description exactly corresponds with my experience:—"Fruit large, pyriform; skin dark green and russet; flesh salmon coloured, melting, juicy, and rich. Tree robust and hardy; very prolific; a good garden and orchard fruit. November 1st to end of third week." I have found some of mine ripe three weeks ago. It may interest owners of town gardens like mine to know the soil with which I have had such fine fruit. The soil is shallow, and mostly made soil, with a large percentage of lime and brick rubbish, and a third of road scrapings and street sweepings. It is grown as a bush, and with an aspect due south.—W. J. MURPHY, Clonmel. [The specimens sent were excellent.]

The Gardener.—The term gardener, says Mr. Meehan, implied much more a few generations ago than it does to-day. Young men paid heavy premiums to get in as apprentices under learned gardeners, and when at the end of the term they were invested with the "blue apron," most of them would compare favourably, in general intelligence, with the graduates of our modern universities. The "Florist's Exchange" replies:—"Is not the analogy a little far-fetched, and whether is the joke on the graduate or the gardener? There are some who yet hold to Burns' opinion of graduates, himself the son of a gardener, that these individuals 'go into college stirks and come out asses.' Despite the abolition of the premium system, we firmly believe the average of general intelligence among gardeners is as high to-day as it was two generations ago. The same fountains of learning at which wisdom may be drunk are available; the same indomitable perseverance in the pursuit of knowledge is still extant, and certainly, in many ways, a higher degree of cultural skill has been attained, with attendant improvement in accruing results consequent upon advancement along educational lines. We do not think that the passing years have in any way altered the significance of the term 'gardener,' accepted in its truest sense, and in countries where a gardener is a gardener. Of course, the world over, there are gardeners and gardeners, just as there are graduates of universities and graduates."

Potatoes and Manures.—One of the finest and cleanest samples of that popular Potato Up-to-Date I have seen at any time is annually grown in a large kitchen garden. The soil, changed every year from Celery or some similar crop, gets very little other manuring than is furnished by leaf soil. Leaves abound in plenty, and labour is well utilised during the winter in collecting them and putting them into large heaps. They are used in diverse ways, but especially as plunging material in helping to form beds for frames, promoting gentle heat, and in other ways, such as help to decomposition. When applied to the soil the material has been in process of decay for two years, and is therefore in fine condition as manure. I have been into really good vegetable gardens where leaf matter and decayed garden refuse has been the sole manure given to the ground, horses or cows not being kept, yet capital crops have resulted. Now, in tree leaves there can be no doubt but that we furnish to the soil nutriment hardly less valuable than is that obtained from animal manure. Really the decayed vegetable matter is nutriment for vegetation first hand. Magnificent forests have resulted almost solely from leaf matter being by decay converted into plant food, and thus trees have been their own manufacturers, abstracting from the soil and from the atmosphere elements which in constructing leafage have enabled the trees the following year to reconstruct leafage and growth in even a greater area, and thus trees or forests have grown. No doubt if we use leaves largely as manure for vegetable crops we rob the trees. But the utilisation of the waste leaves in vegetable crop manuring at least renders man the greatest service.—A.

Notes on Pines.—At this time of year young plants are apt to become drawn and weak through the moisture so prevalent during the autumn months. As growth advances in young plants they should be placed so as to obtain all the light possible. Owing to decomposition the beds of fermenting materials subside considerably. Tan does not sink to anything like the same extent, but in either case attention must be promptly given to raising the plants. New beds should be prepared when necessary. Tan is the best material for affording bottom heat for Pines, but Oak and Beech leaves are durable, and the heat from them is milder and lasts longer. It is good practice to assist the plants at this time of year by arranging them according to their requirements respectively for the winter. The fruiting plants must have a night temperature of 65°, and 70° to 75° by day from artificial means, losing no opportunity of admitting air at 80°, closing at that temperature. Successional plants require a night temperature of 60° to 65° in the daytime from fire heat, advancing from sun heat to 75° or more, but air must be admitted between 70° and 75°. Suckers or stock not in fruiting pots must not be brought forward too rapidly, as they are not prepared to make growth until well rooted and have formed a sturdy base. They will progress satisfactorily in a night temperature of 55° to 60°, and 60° to 65° in the daytime, but avoid chills or anything likely to cause a stunted growth. As regards moisture, fruiting plants require a genial atmosphere at all times. Succession plants will only require sprinkling occasionally, as they will derive moisture from the fermenting beds. Suckers will have sufficient moisture in pits without recourse to syringing.—PRACTICE.

Hyacinths in Beds.

It has now become quite general in both large and small gardens to have one or more beds of Hyacinths out of doors, and very welcome their flowers are in the early spring before the beds are needed for summer plants. A few hints upon the subject may therefore be useful, especially as planting time is here, and bulbs, if not ready, should be procured at once.

To grow Hyacinths well in beds the soil should be rich, light, and deep, supposing the soil in the garden is a sound loam and well drained. Then fix upon the beds intended for these bulbs, and excavate it to the depth of 15 inches. Level the bottom, and place a layer of small stones or brick-ends broken small 2 inches thick. Cover this drainage with 2 inches of littery manure; then mix the soil that has been thrown out with some well-decomposed cow manure, leaf mould, and plenty of river or sea sand well screened; the proportions to be one part cow manure, one part leaf mould, to six parts of loam. Should the substratum be clayey or gravelly that part must be wheeled away, and as much good loam added as will replace it; then mix the compost well, and fill the bed with it. Let it be 4 or 5 inches above the former level to allow for settling; lay it perfectly level, so that it may have the full benefit of the rain that falls upon it. This preparation of the beds should be done immediately. I may just remark that if cow manure cannot be procured hotbed refuse well decayed will do; but I greatly prefer the former because it is of a cooler nature, and generally has less straw amongst it.

The best time for planting is the first week in October, though if the weather is mild they may be planted as late as the middle of November. Much depends on the weather and the state of the ground. It should by all means be moderately dry, and therefore it is better to wait a week or two should the season at the right time of planting be wet. To prevent treading upon the bed at that time lay upon it a narrow piece of board long enough to reach across it, or have the board strong enough to bear the planter's weight, and raise it up at each end high enough to clear the bed; then procure a dibber to plant them with, which should be thick enough to make a hole as wide as the largest Hyacinth is in diameter, and the end that is thrust into the soil should be cut across and a mark made just as far from the bottom as the bulbs should be covered with soil; the proper depth is 3 inches from the top of the bulb. Anybody with a saw and a knife could make such a one.

Having a fine day, and the board and dibber ready, then bring out the bulbs and place them on the bed just where they are to be planted. Each Hyacinth should have at least 5 inches to grow in, but 6 inches would not be too much space for the leaves to expand, especially if the same bulbs are to be planted again the following season. If the colours are to be mixed, place them so that the colours will succeed each other in rotation, as, for instance, 1, red; 2, blue; 3, white; 4, yellow; then 5, red, and so on till the bed is full; or if there are several beds, and it is desirable to keep the colours separate, so that one bed shall be red, another blue, another white, and another yellow, then plant them accordingly. For a geometrical flower garden the latter mode will be preferable. As soon as one bed is placed with bulbs, then fix the board across at one end, and plant them. As the planting proceeds have some of the compost ready, sifted through a coarse sieve, and fill up the holes with it. This is better than levelling the holes with a rake, because they are when so covered sure to be at the right depth. When all are planted, rake the bed very lightly, and the operation is complete.

The Hyacinth is hardy enough to bear a moderate degree of frost; but it is advisable to cover the bed with about 2 inches of spent tanners' bark, to be removed early in spring before the shoots appear above ground. When this is scarce, half-decayed leaves would answer the same purpose, or a mat or two thrown over the bed would be protection sufficient. These shelters are for such Hyacinth beds as may be in an ordinary flower garden on the lawn, or in beds in a geometrical flower garden, with Box or other edgings and gravel walks. If an amateur or florist cultivates the Hyacinth in long beds like Tulips, a permanent shelter should be put up in the form of the bed, or the beds might be sheltered with hoops and mats. These kind of shelters can be used when the bulbs are in flower as a protection from sun, wind, and heavy rains. If so protected the season of bloom will be considerably prolonged.

As the season of the Hyacinth's growth takes place during winter and early spring, it very seldom happens that they require much water at the roots, but during dry parching winds, which sometimes occur in March, a slight sprinkling over the beds will be acceptable to the rising buds. In frosty weather this should be applied in the morning only; but if there is no appearance of frost then water in the evenings also, previously to putting on the shutters for the night. This sprinkling may be continued with advantage till the bells begin to expand. As soon as the bloom is over the old flower stems

should be cut off, but not quite down to the ground, the covers removed, and as soon as the leaves turn yellow the bulbs should be taken up and laid upon a mat to dry. By being laid upon a mat they can be lifted easily under shelter in heavy rains, which would injure them much if allowed to fall upon them. When the leaves are all quite decayed dress them off carefully, without bruising the bulbs, and then put them away in a dry cool room till the planting season comes round again.—J.

Improving Soil.

WITHOUT good soil it is quite useless to plant or sow, however favourable the season may be. This fact is so self-evident that to put it on paper appears almost an absurdity; and yet do we not constantly hear it said that soil is so heavy, stiff, sodden, cold, that timely planting is impossible? Remember, it is not of a field or farm land that I am writing, but of those choice morsels of mother earth termed gardens, sometimes defined as "rich well-cultivated spots," so precious as to be enclosed by costly walls and fences. Now, one would naturally suppose that when a portion of land is so enclosed it would forthwith be brought into the highest possible state of cultivation; but this is very frequently only half done, the unfinished part, the weak point, remains unaltered till it leads to almost total failure. In a cold late spring, with the land cold and damp, soils badly drained or deficient in gritty matter are so saturated that cropping is out of the question—a serious matter when a steady unbroken supply of vegetables has to be maintained.

I have soil in various stages of improvement, from a barren crude state, up to a light, rich, gritty—very gritty—condition, the best of which I consider to be as nearly perfect as is necessary for all practical purposes. It is thoroughly drained, is rich in fertilising substances, and contains so large a proportion of gritty matter—really coal ashes and shattered bricks—that a tool will pass readily through it, however wet it may be; so that seeds may be, and in point of fact are, sown on the first fine day in a season of undue wetness. In the beginning of the last week in February preparations for sowing vegetables were made by running hoes through the soil in the morning; and in the afternoon drills were made, and seed sown of Brussels Sprouts, Cauliflower, early Broccoli, Cabbage, Savoy, Leek, Turnip, Carrot, Radish, Lettuce, Spinach, Parsley, and Peas. In due course the crops came up strongly and well without a single failure, all of them proving of the very greatest service. Now this soil, in addition to its high state of culture, had the advantage of being thrown up roughly in autumn, and thus lay ready to my hands when the opportune fine day for which I was on the outlook occurred.

Let no one suppose that I possess exceptional advantages, or that what I have done may not be accomplished even in the smallest gardens. The mistake which so many of us make is in trying to do too much in the first instance. To improve the condition of the soil of a single border is a very different matter to applying a similar process to an entire garden, and yet by having that one border in suitable condition for a seed bed at any time we secure a supply of seedlings ready for transplantation to less favoured spots later on, and yet quite early enough to secure good and seasonable crops. By all means let us cultivate every part of the garden as well as we can, but in doing so let us make sure of having a certain portion in a condition of high excellence, aiming to bring the remainder up to our standard, however slowly it may have to be done.

Let those who have a bad soil devote attention to one or two of their borders this autumn. Do not rest content with just putting on manure and throwing up the soil roughly to frost and wind; but first of all dig it over, then put on a layer of old manure and hard grit—road scrapings, coal ashes, stones broken finely, mortar rubbish, burnt clay, or shattered bricks. Any of these will answer admirably, provided you use enough, say 6 or 9 inches, of manure and grit. Stir this well into the soil, turning it over till a thorough mixture is effected; then lay it up in slight ridges or in any rough fashion for the winter, and whether next spring prove wet or fine you will have an excellent seed bed, not only because its free open nature will enable you to sow at almost any time, but also because it is that very property, combined with its richness, which will insure prompt vegetation and a free strong growth.

The foregoing formula applies generally to new rather than to old gardens; yet strictly speaking it is applicable to all soils that are of a poor, close, or heavy texture. In old gardens the soil is very frequently found to contain such a superabundance of humus as to induce a soapy condition in a wet season. The best corrective for this is a free dressing of lime and coal ashes, after making sure that the drainage is all right. Many a garden suffers in spring from defective drainage, which, in addition to the sodden condition of the soil, or rather for that very reason, induces a low temperature and a moisture-laden atmosphere that is often fatal to tender vegetation.—L.

The Planting Season.

NOTWITHSTANDING the copious rains which have recently fallen, the moisture has not penetrated far below the surface in nurseries where shrubs and fruit trees are growing rather thickly on the ground. The leaves of deciduous trees are, however, coming down in shoals, and soon the great work of distributing throughout the land hosts of trees and shrubs will be in full swing, and planters will be busy carrying out the congenial work of planting shrubs to beautify our gardens, and fruit trees which a few years hence will give fruit worthy of Britain and British gardeners. The extensive planting which goes on each year does not seem to lessen the enormous supplies of fine Apples and Pears which come to us from foreign lands, but it certainly helps to make inferior samples—rubbish—almost unsaleable in the markets, and will consequently seal the doom of many old orchard trees which are simply cumberers of the ground. The sooner all worthless varieties and worn-out trees disappear the better for all connected with them, for they bring little if any profit, and are, moreover, a blot on the fair fame of the British fruit grower.

Although planting may be safely performed from the present time onward till spring—whenever the weather is mild—yet every opportunity should be taken to push forward the work in autumn, as when trees are planted while the soil is still warm the roots begin to make progress at once, and should dry weather prevail in early summer they are better able to withstand drought than trees planted in spring. Nurserymen cannot, however, execute all orders in a couple of months, and for this reason those who intend to plant early should order their trees early, or they can scarcely expect to receive them just in the nick of time. When a large amount of planting has to be done it is impossible to get the whole of the ground ready at once, as it is really the work of the entire winter, and it is far better to prepare the ground thoroughly and plant somewhat later than rush the work through in a slipshod manner in order to complete it by a certain date.

Fruit trees are not now so much planted around the sides of walks as formerly, but a quarter is usually devoted entirely to them; in either case when planted in enclosed gardens I pin my faith on bush trees worked on the broad-leaved Paradise stock. If these are set from 9 to 12 feet apart they are easily kept within bounds and begin to bear fruit early. Gardeners do not often have much choice in regard to soil, but have to make the best use they can of that in the gardens under their charge. When these happen to be light and sandy they may be greatly improved by the addition of clay or marl. If this has been dried during the summer, and then pounded, it will be in the right condition for mixing with the garden soil as the work of digging proceeds, but when there is no stock of prepared clay to draw upon it should either be burnt or spread upon the land and left to the action of frost for a few weeks. It is a decided mistake to dig in large lumps of soft clay, as land so treated is several years before it can be brought into good working order.

When a quarter is planted entirely with fruit trees the whole of the ground ought to be trenched, without changing the position of the upper and lower spits, except when the soil is uniformly good throughout. This is sometimes the case in old gardens, and then the practice of reversing the spits is productive of much good, as both layers are in turn brought under the immediate influence of light and air, to be sweetened and enriched thereby. When the whole of the ground cannot be trenched stations should be prepared by making holes from 4 to 6 feet in diameter and 2 feet in depth, and breaking up the subsoil as well. In such cases it is an easy matter to place a couple of barrowloads of turfy loam round the roots of each tree to insure a good start.

The plan of preparing stations should also be adopted when orchards are formed on grass, and if fences are erected around the trees, and the enclosed space kept free from weeds and the soil loosened on the surface each year, far better progress is made than when the turf is relaid almost up to the trees. My experience has taught me that this is a most important matter, as these trees, innumerable in this country, which are making very slow progress for no other reason than because the roots are shut out from the influence of light, air, and rain, through having strong growing grass above them. When trees have grown to a good size they are better able to take care of themselves, and as the fences are worn out they may be removed. From 40 to 50 feet is a suitable distance apart to plant trees on grass, as when fully grown there ought to be a clear space between each, so that the grass may form a good secondary crop. We have seen too much of crowded orchard trees in the past—the future should show better things.

Mixed plantations are universally popular with those who rely upon fruit growing for a living, because it is seldom, if ever, all crops fail in any one year, and when one crop fails others are often abundant enough to make good the deficiency, as they can be disposed of to better advantage than when all crops are heavy. Owing to our

at present by no means perfect system of distribution, a heavy all-round fruit crop seems to be the least profitable to the grower, though agents and retailers certainly gain an advantage. But let me return to the point at issue—viz., the formation of mixed plantations. Although termed mixed, it is not desirable to mix them indiscriminately. One quarter may be devoted to Plums as a top crop, another to Apples, and a third to Pears. Cherries thrive best on grass, as the roots do not like to be disturbed. As an under crop Gooseberries can occupy one quarter, Red Currants another and Black Currants another. When there is a choice of soil and site, Pears, Plums, and Black Currants should be planted on the heavier ground, but low-lying ground is not suitable for the two former, as there is such great risk of injury through spring frosts. For a mixed plantation the standard is, I consider, the best for Apples and Plums. If the former are planted from 25 to 30 feet apart, and the latter 15 feet, a large amount of space is left for planting bush plants from 5 to 6 feet asunder. As the standards develop a few of the bush trees can be gradually removed.

Standard Pears are such a long time in reaching a fruitful stage that bushes on the Quince stock will, I think, come more and more into favour. Twelve feet apart is a suitable distance to plant in a mixed plantation, but it is a good plan to devote a quarter entirely to Pears, set them 9 feet apart, and plant Strawberries between. A return is thus obtained the first year from the Strawberries, and the Pears soon begin to give a few fruits. Such fine varieties as Conference, Williams' Bon Chrétien, Beurré d'Amanlis, Durondeau, Emile d'Heyst, Louise Bonne de Jersey, Marie Louise, Souvenir du Congrès, and Pitmaston Duchess are well suited for growing as bushes on the Quince stock. Among Apples the following are a few worthy of extended cultivation:—Dessert: Gascoyne's Scarlet Seedling, Lady Sudeley, Beauty of Bath, Allington Pippin, Cox's Orange Pippin, Ribston Pippin, King of Pippins, Braddick's Nonpareil, Fearn's Pippin, Duke of Devonshire, and Allen's Everlasting. Culinary: Early Rivers, Manks Codlin, Lord Grosvenor, Ecklinville, Worcester Pearmain, Bismarck, Warner's King, Tower of Glamis, Bramley's Seedling, Lane's Prince Albert, Dumelow's Seedling, and Northern Greening. The last four should, for market purposes, be planted largely, as they have the great merit of being good croppers and late keepers. Varieties of Plums were dealt with in recent articles (pages 244 and 288).

The necessary details of removing damaged roots and the points of others, as well as spreading them out evenly in the soil, has so often been treated of in the *Journal of Horticulture* that it seems superfluous to write much on these points, but young readers should remember that success largely depends upon attention to such matters. Deep planting also should be avoided. A safe guide is to cover the surface roots with 2 or 3 inches of soil only. All trees ought to be staked securely after planting, and have the soil around them mulched with manure. In stiff wet soils plant on mounds raised slightly above the normal ground level.—H. D.

The Greenhouse in Winter.

A GREENHOUSE to be kept continually gay and effective from October 1st to March 31st, so as to give the greatest possible amount of pleasure to its owner, should be provided with convenience for maintaining a suitable temperature, with a view to including the more tender stove plants; nor too low to feel chilly and stagnant, in which flowers would damp or refuse to open. A temperature not very different from that of a living room would be the most suitable for the plants and the most inviting to those who wish to enjoy them.

The greenhouse should be near the dwelling. It ought not to partake too much of the more ornate conservatory in structure, but one adapted rather to the requirements of the plants, to give them all the light possible during the darker part of the year, and one capable of showing them off to the best advantage. There should be front stages and another of a graduated form, about three steps would be sufficient, to fill up the higher and interior part of the house. It would be an advantage if the two upper stages were made portable, so that one, and if necessary the two, could be temporarily removed when required; this would enable us to accommodate taller plants, such as Chrysanthemums, in their seasons, and help to give variety to our arrangements.

Constant care must be exercised in ventilating, watering, watching for insects, cleanliness, and great attention to the removal not only of decaying leaves, but also of flowers as soon as they are over. These latter should be promptly picked off, for beside being exhaustive to the plants they impede the expansion of successional flowers. With these attentions and good taste in the disposal and arrangement of the plants a green-

house can be kept as gay during the six months under notice as in the warmer and lighter half of the year.

Let us suppose that a small forcing house and pits are available in which plants may be brought on as wanted to replace those that go out of bloom. On October 1st we shall find many plants that have been blooming previous to this date in a condition to carry us more or less through the month, and in some cases far into the next. Among them are Fuchsias, fibrous and tuberous-rooted Begonias, Tuberoses, Tea Roses, *Celosia plumosa* in variety, *Vallota purpurea*, *Nerine Fothergilli*

flowerers. *B. Gloire de Lorraine*, *weltoniensis*, *fuchsioides*, *Carrieri*, *Gloire de Sceaux*, and several other autumn and winter bloomers are valuable.

November is the month for Chrysanthemums, and they well deserve a considerable amount of space and attention as the queen of autumn flowers, yet they ought not to monopolise it to such an extent as to crowd out the many other deserving plants. So popular have they become, and so varied in form and colour, that they help very much to make perhaps the most dismal of months one of the brightest in the



FIG. 111.—NERINE FOTHERGILLI MAJOR.

major (fig. 111), *Heliotropes*, *Plumbago capensis*, and early flowering Chrysanthemums. To these may be added, or to take their places, tree and Marguerite Carnations, *Salvias*, *Eupatoriums*, *Luculia gratissima*, *Bouvardias* of sorts, and *Lily of the Valley*. The last named may be had continuously during the whole six months by using retarded crowns during the first half of this period. Zonal *Pelargoniums* that have been specially prepared for autumn and early winter flowering are from their brilliancy and variety in colour of the greatest value. The Roman Hyacinth, a general favourite, and perhaps the most useful of early flowering bulbs, can be had in succession for a considerable time. The fibrous rooted Begonias, especially the much improved varieties of *B. semperflorens*, are very serviceable and continuous

greenhouse. *Abutilons* are very effective, and *Lasiandra* (*Pleroma*) *macrantha*, with its distinct, violet purple flowers, always attracts attention.

December is a festive month, and it is not difficult to make it gay with flowers. Chrysanthemums will be on the wane, but the number of beautiful late varieties will carry us on to the end of the year. *Cyclamens* will now come to the front, and for the greater part of the winter will be amongst the most telling of the dwarfier plants. Chinese *Primulas* will soon be coming in. These give us even a greater variety of colour than *Cyclamens*. There are also some charming double forms. These two last named plants, so readily raised from seed, are an exhibition in themselves, and among the most valuable of our winter-

flowering plants. The Star Primula (*P. stellata*) of taller growth and more elegant habit, is well worth growing, and serves effectively to break the somewhat level monotony of the others. Primula obconica is useful, as it is a free and almost continuous bloomer. The easily grown Calla will give variety and is always appreciated. The Paper White Narcissus, with its larger variety and the double Roman, will now be available, and serve as harbingers of many others of their kind soon to follow.

Christmas Roses are easily got into flower, and the lovely Freesias can also be had. Few plants have become more suddenly and deservedly popular than these, and with successions they can be had in bloom for the greater part of the winter. The early Duc Van Thol Tulips can be flowered at Christmas and will add much to the brilliancy of the greenhouse; a few of the earliest Hyacinths may be forced and associated with them. Among hardwooded plants must be mentioned Camellias, winter Ericas, Epacris, a few Azalea indica alba, and the double variety Deutsche Perle can be easily pushed on. I must not omit Daphne indica, for its delicious perfume. Varieties of Epiphyllum truncatum are conspicuous winter-flowering plants, and seldom disappoint us. A few berried plants are welcome at this season in the greenhouse: Solanum capsicastrum and hybrids, the beautiful and varied Pernettyas in berry, Aucubas, the little Otaheite Orange in small pots, and I would add Ardisia crenulata, although generally grown in stoves, is quite at home in a warm greenhouse and less subject to scale. A few Tea Roses can be had in flower, their charming buds being always in request. This brings me to the end of the year and to the end of the first half of my allotted task.—SEMPERFLORENS.

(To be concluded.)

Young Gardeners' Domain.

A Little Sermon.

It is not my intention now to speak to the veterans of the craft, but to the young gardeners who contemplate taking a head place as soon as an opportunity occurs. To those who have not made themselves thoroughly acquainted with the routine of kitchen garden. I would say, Do so immediately, before taking sole charge. Some may say that this is an easy matter, but let those who are inclined to think so ask one of the masters of the profession. I have often heard it said (and in good establishments, too), "Ah! if I secure a good kitchen garden man I shall be all right." To quote my own case. Not long after taking charge my head kitchen garden man retired, and he leaves a vacancy which his successor does not fill; and were it not for experience gained by having worked a portion of my time in the kitchen garden I should have come off second best. As a journeyman outside I remember thinking myself qualified in all matters pertaining to kitchen garden work, but on being offered and accepting the outside foreman's place I found that I had to learn many things, even with two years of kitchen garden work in my diary to help me.

It is this that causes me to wonder how those men will act who have only had a small experience of outside work. I know many young gardeners who are inclined to look askance at a spade; with a good meaning I would advise them to think well on this subject. One more suggestion and I will finish. I strongly urge upon young men not to flit too quickly from one department to the other, but to put in at least two years in each. I have a young man at present who has been in a few establishments, with a record of eighteen months' stay at three of them, and I am convinced that it is a mistake to move thus quickly, as it is perfectly certain that no man can learn all there is to be learned in any garden in such a short space of time.—A YOUNG HEAD.

Metropolitan Open Spaces.—Lord Teynham presided at the recent meeting of the Metropolitan Public Gardens Association. It was reported that three new grounds, laid out by the association, had been opened to the public during the past summer. The purchase of the addition to the Postman's Park, Aldersgate Street, towards which the association and various other bodies had contributed, had been completed, and the ground had been laid out and added to the original area. The Bills in Parliament for acquiring the Alexandra Palace and Park, and for enabling the City Corporation to maintain the enclosure in Finsbury Circus as a public garden had passed into law. A letter in reply to a request on the part of the association was read from the Corporation of the City of London stating that the utmost care would be taken not to damage the roots of the famous Plane tree at the corner of Wood Street and Cheapside in connection with the widening of the footway in the former street.



Hardy Fruit Garden.

Planting Fruit Trees and Bushes.—The most suitable time is now at hand to plant permanently all kinds and forms of fruit trees. When the weather is dry during November the ground is usually in the proper condition for working, hence the planting can be expeditiously and well done. The soil ought, however, to have been previously prepared, so that the heavy labour involved in digging or trenching, which is usually essential before planting, is not required when the trees or bushes are ready. Although it is desirable to have the soil ready this cannot be managed in every case, and the quarters for the trees await preparation. During the progress of this work trees and bushes arriving from a nursery should be laid in in moist soil to prevent the roots drying.

Preparing the Soil.—The average depth of good and fertile soil, which is indispensable for vigorous and healthy growth, is not less than 2 feet, and it is important to move it to this depth previous to planting if it has not been worked recently. Deep cultivation is a distinct advantage for fruit trees, but it can only be carried out prior to planting. Should the soil be of uniform quality to the depth above stated trenching will be the best method of treatment, but if the top only is good and the subsoil poor do not reverse the position of the spits, but move and break them up thoroughly all the same, adopting the plan of bastard trenching. A sound holding loam should be selected, though soil that will grow good vegetables will grow excellent fruit. Very poor soil must have manure worked in, employing that of a decomposed character, but not too liberally, except for small or bush fruits. An ordinary fertile soil will not require manure intermixing when preparing for planting, as it induces a strong growth which is liable to be fruitless. An excellent plan of preparing the soil for fruit trees is to trench and manure freely in spring, then grow a crop which will be removed early in autumn, Potatoes for instance. Thus the ground will be clean, in good heart, and, after forking over and levelling, ready to receive the trees.

Planting.—Let the station for the reception of the roots be formed wide and shallow. Deep planting is not advisable, but it is important to spread out the roots to their full extent. Before introducing the roots into the holes prune away all the injured parts, leaving the ends smooth with a clean upward cut in a slightly slanting direction. In planting, lay out the lower layer of roots in a horizontal direction, and secure them at once in that position by spreading over them from the stem outwards some fine light soil, consisting of loam and wood ashes. Treat the next layer of roots in the same manner, covering the top set not more than 3 inches. The tree or bush may be carefully moved slightly up and down to work the soil among the roots, but do not make the soil firm about them by treading, as this will probably damage the roots near the collar or where they originate near the stem.

Distances of Planting.—Pyramid and bush Apples on Crab stocks may be planted 12 feet apart. Half that distance will suffice on Paradise stocks if the trees are closely pruned, and occasionally root pruned. Horizontally trained espaliers, both of Pears and Apples, must be 15 feet asunder. Cordon Apples and Pears, upright or oblique, should be 2 feet apart on walls. Fan trained Apricots, Cherries, Plums, and Figs against walls may be 15 feet. Plant bush Currants and Gooseberries 6 feet asunder.

Treatment after Planting.—Standard and half-standard trees should be staked at the time of planting. They are liable to be moved about by strong winds and the roots displaced if the stems are not secured. Let the stakes, which should be as tall as the trees, be driven down carefully among the roots before the latter are buried with soil. Wind some soft cloth or other material round the stem of each, and then secure soft yielding copper wire, which may be made fast to the stakes. Tarred string or cord will also answer, but should be renewed as often as necessary. Young wall trees are best secured to a few stakes at first, as these will sink with the soil, whereas if the branches are fastened at once to the wall the soil sinks from the roots, leaving them, as it were, hung. When the soil and roots have settled comfortably into position then secure the branches to the wall.

Watering and Mulching.—Watering after planting may be necessary if the soil is very dry; it assists the soil working among the roots, filling up the interstices, and consolidating the soil about them. Wall trees may require it when those out in the open do not, owing to the ground being sufficiently moist. Mulching is also important. Place a layer of littery manure over the roots on the surface of the soil. Failing manure, leaves, partially decayed, will act well. The object of mulching is to retain warmth and moisture in the soil, and maintain it in an equable condition suitable for steady growth.

Fruit Forcing.

Vines.—*Early Forced in Pots.*—Where thin skinned Grapes are required in March and April the house intended for the Vines to produce them will now be ready for their reception. The pots should be placed on pillars which will not give way under their weight, or interfere with attending to the fermenting material used for supplying bottom heat, than which nothing answers better than bricks placed to the required height without mortar. Against the pedestals some turves may be placed and the holes in the pots enlarged, bringing the turf up above them so as to be within easy reach of the roots, which will speedily follow the stimulating food with which the Vines are fed, and the weight and quality of the crop will be materially enhanced. Oak, Beech, and Spanish Chestnut leaves are the best for supplying bottom heat, being of a durable nature, giving out heat and moisture steadily through the early stages of growth, and rich stimulating food from their decay during the swelling of the fruit, when the Vine requires all the support that can be given. Take care that the heat about the pots does not exceed 70° to 75°, supplying water only to keep the soil moderately moist, as a wet condition does not favour speedy and healthy root action.

Allow the canes to fall into a horizontal position over the fermenting material until they have broken, but not permitting them to rest upon the moist and warm bed. Syringe the paths, walls, and canes two or three times a day, but sufficiently early for the last time each day to allow of the canes becoming fairly dry before nightfall. Maintain a temperature of 55° at night, and 60° to 65° in the daytime, with a free circulation of air at and above that temperature, and close early in the afternoon.

Succession Houses.—Push on the pruning as soon as the Vines become clear of foliage, also the cleansing and limewashing, carefully washing the rods with soap and water before dressing them with an insecticide. This will be all that is, in most cases, necessary, few growers now practising the old-fashioned process of peeling, scraping, and painting with a pigment of clay, soot, sulphur, and other substances. Where insects, however, have a strong hold on the Vines it is absolutely necessary to remove the loose bark; but do not injure the living rods, and eradicate the enemy by washing thoroughly with an insecticide. Some strong mixtures, especially those compounded of oils and fats, are more injurious to the Vines than the peeling, and they should be avoided unless used with an equal weight of dry pulverised clay and sufficient water to form a cream readily applicable with a brush.

Midseason Houses.—Any Grapes that are still on the Vines may be cut, as they will keep fresh in bottles of water in a cool, dry room. The Grapes should be cut with all the wood that can be spared for insertion into bottles of rain water, removing the foliage, but not shortening the wood—the wood that has formed beyond the bunch. The Vines should then have the laterals shortened or removed, and the growths generally cut back, so as to plump the pruning buds; but it must be done gradually in the case of vigorous Vines which are disposed to make a late growth, checking their propensity by free ventilation instantly; and where the wood is not brown and hard the heat should be turned on by day, but shutting it off at night, until the foliage affords indications of falling, yet not allowing the temperature to fall below 50° at night. The Vines will derive great benefit from the exposure to the weather as long as it continues mild, guarding against a sudden chill by drawing up the roof-lights, or closing the house when the nights are likely to be wet or frosty.

Late Hamburgh Houses.—The atmosphere in which bunches of thin-skinned Grapes are hanging cannot be too carefully attended to, as the berries are very susceptible to injury from excessive moisture; while if kept too dry and warm they are liable to shrivel. A gentle movement of the atmosphere will prevent the deposition of moisture on the berries, and when ventilation cannot be given a little warmth in the hot water pipes will keep the air in motion, and the moisture will be condensed on the glass as long as the external air is cooler than that of the house. A steady temperature of 50°, with a little warmth in the pipes, and liberal ventilation on fine days, will suit the Grapes during the fall of the leaf, when, unless the house is well adapted for keeping them, the bunches may be cut, bottled, and placed in the late houses or a cool, dry room. The border must be kept moist or the Grapes will shrivel even while the leaves are on the Vines.

Late Houses.—Muscats, as a rule, have done well this season, being fine in berry, high in colour, and excellent in quality. This is the outcome of thoroughly ripened wood and stored matter from last year. The Grapes will need a temperature of 50° to 55° until the leaves commence falling, and moisture must be kept from becoming stagnant by a judicious admission of air. Where the Vines have lost their leaves a slight shading may be necessary to prevent the berries becoming brown, which is not a tinge esteemed at table nor in the market. Only where the panes of glass are large and the weather bright is this advisable, and a single thickness of pilchard netting drawn over the roof-lights will be sufficient shading. The thick skinned Grapes will still improve in finish and quality being accorded a temperature of 50°, and air freely admitted above that on all favourable occasions.

Though the berries will keep well enough in houses where the outside borders are exposed to the weather, it is only when they are

high and dry, for a cold saturated soil is not without its baneful effects on the Grapes as well as the roots of the Vines. To prevent such condition the borders should be covered with lights, or something that will throw off deluging rains and snow. Lights are the best, as the border then gets the benefit of sun and air; but a covering of dry fern or leaves with a little litter over them is better than nothing. The inside borders will be getting dry at the surface, and should be covered with some dry fern or sweet straw, neatly spreading it over them. This will prevent their cracking and giving off dust, besides improving their appearance. Give daily attention to the removal of ripe foliage as it parts from the Vines, keeping the houses clear of plants requiring water, and thoroughly sweet and clean, removing all faulty berries as they appear.

THE BEE-KEEPER.

Preparing for Spring.

THE fine weather experienced during the past two months has had the effect of prolonging the flowering season of annuals and other free-flowering plants in the garden. It is not often such a wealth of flowers is seen as late as the middle of October. When frost has destroyed the flowers no time should be lost in making preparation for spring. It is a great advantage to plant as early as possible in the autumn, so that the stock may become established before severe weather sets in. Fortunately some of the showiest spring flowering plants yield both pollen and honey. The former is a necessity when breeding is going on in the spring, and without it the bees would be at a standstill. If flowers are not plentiful artificial pollen may be provided.

Wallflowers we plant more extensively than anything else on account of their showy appearance and sweet perfume whilst in bloom. It is not one of the earliest spring flowers, except in a sheltered position. If the seeds were sown in May, and duly thinned or transplanted, the plants will have made a compact growth, and if they are lifted with a ball they will not receive any check. We prefer self colours, either yellow or red, and if planted in masses they have a much better effect than if planted singly amongst other plants in the borders. Arabis alpina is also excellent for the bees, as it comes into bloom very early in the spring. It is suitable for the rockery or for edgings. This plant is increased by division in the spring.

Limnanthes Douglasi grows about 9 inches in height, and when once plants have become established in a place they will reproduce themselves from seeds. It usually blooms in May, and large masses of it are very showy. Although not usually classed as bee flowers, we may mention the common Primrose and the different varieties of Myosotis, as at the season when they are in bloom flowers are often scarce, and the bees may be observed to be working freely on them. There are many bulbous plants which are useful to the bees. One of our earliest spring flowers is the Winter Aconite. This does remarkably well if planted in the grass, and it has the advantage of growing freely and flowering profusely when planted under trees. This is followed by the Crocus. All the varieties are excellent pollen-producing flowers much frequented by the bees.—AN ENGLISH BEE-KEEPER.

Rhythmic Growth.—Mr. Meehan says, "Though it has long been suggested that growth in plants is not regular and continuous, but rhythmic, it is only within comparatively recent years that observations numerous enough to carry almost universal acceptance of the proposition have been made, and these chiefly through the labours of American biologists. But the European observers seem to conclude that this is not a natural rhythmic growth, but a condition induced by change from light to darkness, or some other phase of environment, which brings about this 'periodicity,' as they term it. In this light a paper contributed by M. E. Godlewski to the Academy of Sciences, in Austria, is attracting marked attention in the Old World. His experiments show that there is more or less growth in proportion to the moisture or dryness in the atmosphere. He discovered that though a sudden change from obscurity to light brought about a diminution in the rate of growth, after five hours it would again resume its 'normal' progress. The explanation from American botanists would be that the innate life energy is, naturally as all motion is necessarily, rhythmic; and that this energy is more or less feeble in proportion to external resistance. With partial rest it acquires new force with which to oppose resistance, continuing till this is again spent."

Trade Catalogues Received.

Little & Ballantyne, Carlisle.—*Forest and Ornamental Trees.*
 Vilmorin, Andrieux & Co., 4, Quai de la Mégisserie, Paris.—*Bulbs, Strawberries, Gladioli, and Seeds for Autumn Sowing.*
 W. Watson & Sons, Clontarf Nurseries, Dublin.—*Roses.*



TO CORRESPONDENTS

All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Cladosporium Disease in Tomatoes (S. E. D.).—This fungus causes the decay of the fruits. It begins with a minute black spot, which surrounds the small decaying style. The black spot gradually increases in size by new circles of growth, one beyond another in the style of fairy rings. The fungus growth at the same time flattens the apex of the fruit, till at last the whole substance is blackened and entirely destroyed by the Cladosporium. The fungus spreads from the leaves, also from one fruit to another, till at last leaves, stems, and fruit are all alike decayed. An illustration is given of a half-decayed fruit, also a view of the assailing fungus enlarged from the microscope 500 diameters. The brown spores of this Cladosporium are often produced in such enormous numbers upon both sides of the foliage that they fly from the leaves in millions. If the Tomato foliage is briskly touched a cloud of spores will taint the air and be distinctly perceptible in the mouth and lungs if they are inhaled. Most of the Tomato fungi are in their earlier stages quite superficial, so that if remedies are applied in good time recovery seems to be possible. All diseased fruit should be gathered and burned, the house kept warm, dry, and well ventilated.

Bringing Out the Scent of Dried Roses (A Constant Reader).—As the petals or so-called "leaves" have been exposed for some time in bowls in the hall the scent has probably left them, the fragrance being of a volatile nature, and is not infrequently lost in the drying. In that case nothing would bring out the scent, and though we have known them refreshed by sprinkling with "otto of Roses" the perfume must be added before any can come out.

Soil for Cox's Orange Pippin Apple (R. C.).—It does best on a deep loam, but well drained, of the old red sandstone formation, and equally well on the new red sandstone. It also succeeds on good loamy soils of nearly all formations, especially on the ragstone of Kent, when overlaid by good soil. It does not like a cold wet soil, or the opposite extreme of dry, gravelly, or sandy soil, though this is better than very heavy land, as it can be made more suitable for the trees by judicious mulching. Any good garden soil, with not less than 18 inches to 2 feet depth of free working earth, and well under-drained, will grow this Apple well, always provided the location is suitable, as it does not succeed well in exposed places and in cold wet districts.

Burning Sulphur in a Vinery (J. B.).—It is safe to burn a moderate quantity of sulphur in a vinery where the plants are removed and the Vines at rest, but, though practised to some extent by growers of Grapes for marketing, is not an advisable procedure. About 4 ozs. of sulphur per 1000 cubic feet is ample, not burning it all in one place, but in places some distance apart, say 9 to 12 feet, along the house. Instead of using sulphur we should use nicotine compound for destroying the mealy bug, as it may be vaporised to a much greater extent than when the Vines are in leaf, indeed the vaporisation may be doubled, and all the mealy bug reached by the nicotine vapour would certainly be destroyed. This is somewhat difficult to effect when the Vines are at rest, as the pest harbours in crevices and other out of the way places, and is difficult to reach, even by fumes or vapour. Why not vaporise with nicotine compound when the Vines are in growth, taking care not to give an overdose, but repeating a few times at intervals of about a week?

Dressing for Land Infested with Slugs (Pest).—Gas lime, fresh from gas works, is an excellent application to ground "alive with grubs, slugs, and snails," applying, when the land is bare and preferably in autumn or at least two or three months in advance of cropping, $\frac{1}{2}$ cwt. per rod, spreading evenly and leaving on the surface for a month, then digging in with a fork and taking small spits so as to mix evenly with the soil. This should rid the ground of the pests then present, for it must be remembered that slugs travel considerable distances in quest of food, hence repressive measures are almost always necessary. The gas lime must not be used over the roots of fruit trees or bushes. In case of these dress with freshly burned lime, 1 cwt. per rod, placing in small heaps convenient for spreading, and slake with the smallest quantity of water needed to cause fall into an apparently dry powder. Spread evenly and leave on the surface for a day or two, then dig in as advised for the gas lime.

The Winter Moth (A. C. R.).—The larvæ of the winter moth do much damage to fruit and forest trees by feeding on the unopened buds. The best way of avoiding their attacks is to prevent the female moth ascending the stem of the tree to lay her eggs, as you appear to have been informed. In her "Manual of Injurious Insects" Miss E. A. Ormerod recommends that this be effected by dipping a rope of rough woollen rags or a twisted hayband in a mixture of tar and oil, which would keep moist for some time, and lay it on the ground near the tree, all round it, but not touching it. As the female moth is unable to fly she would be unable to surmount this. Probably a few spadefuls of gas lime (such as has been exposed about a month) thrown round the stem, but not piled against it, would not be crossed by the moths. Also (where the moths are known to be numerous) it would be well to try shaking the boughs at night over a cloth. Destroy all boughs and twigs that may be pruned late in the winter, so that there may be no chance of caterpillars hatched from eggs on the shoots or buds getting up the trees.

Glands on Peach Leaves (Fruit).—You ask whether the glands at the base of the leaves of Peaches and Nectarines so materially deviate in form, by various causes, as to now almost do away with the reliability of the gland test in determining nomenclature. In the absence of fruit, our reply is in the negative. Glands on healthy, fully developed leaves are the same in character now as ever they were. They are as unmistakeably round in many varieties as they are kidney shaped in others, while some varieties, though these are in a minority, are glandless. A comparatively few Peaches and Nectarines are indeterminate in the matter of glands; for example, they are variable—usually round, though occasionally kidney shaped—in Alexander and Lord Palmerston Peaches and Dagmar Nectarine. On some leaves they are very small, and a pocket lens may be necessary for determining their character, as in the case of the Nectarine Peach. Glandless leaves, such as of Early Tillotson, Noblesse, and Royal George Peaches, are considered by many growers to be tender and prone to mildew infestation, especially out-

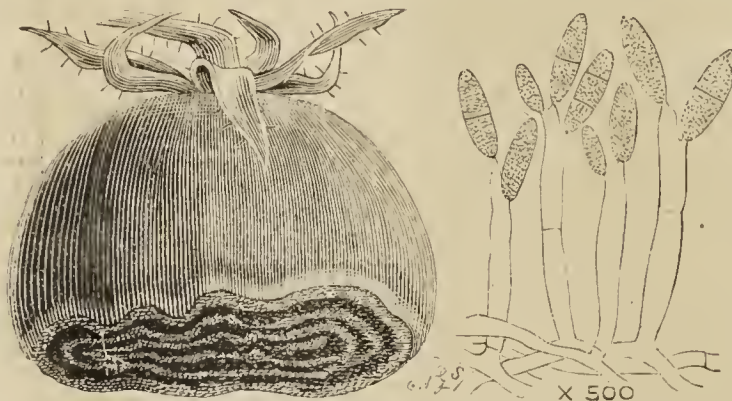


FIG. 112.—TOMATO DISEASE CAUSED BY CLADOSPORIUM LYCOPERSICI.

doors. Stirling Castle (glandless) is for that reason often preferred as a hardier form of the last named variety. Experienced "fruitmen" in nurseries can recognise certain varieties of Peaches by the general character of the leaves, such as slight variation in form, waviness, and serratures, ignoring the glands. They are liable to make mistakes all the same. We can cite a serious instance of this. In a very extensive and comparatively new structure several trees of a particular variety of Peach were ordered from two nurseries. From one they were true, the other the reverse, and the variety inferior. Hundreds of feet of trellis were covered with this in two years, to the great loss of the grower of fruits for sale. When the glands are observed and understood, also another character still more fixed, and certainly more obvious, kept in mind—namely, "large" or "small" flowers, such errors would be less likely to occur. Very few persons indeed (if any) can name Peaches or Nectarines with certainty from fruits alone (though they may make good guesses at several), but let an expert know the nature of the glands (if any) on the leaves and the flowers that produced the fruits and he will be materially aided in identification. Grosse Mignonne, which you name, has round glands and large flowers; Dr. Hogg, kidney shaped glands and large flowers; Stirling Castle, no glands and small flowers. Growers of Peach and Nectarine trees, especially for sale, should familiarise themselves, by many and close observations, with the peculiarities of the glands of different varieties. This cannot be done by a mere passing glance now and then, as if the matter were of no importance. It is a question of "eye training" that enables a Chrysanthemum grower to name a hundred varieties of his plants by their leaves alone, and it is the same in other small matters, including the almost lightning-like rapidity with which the compositor will pick up and set in its right place every individual metallic letter that in the aggregate conveys this reply. It should be said that all the leading fruit nurserymen whose names are familiar to our readers are most careful in the correct naming of their trees, and not one of them is responsible for the serious mistake above indicated.

Magnolia Dying (*J. M.*).—No disease appears on "the top branch that started to die first," there being no trace of canker as caused by fungus, and we consider it to have been perfectly innocent of any fungoid pest of a parasitic nature. The appearance is that of the branch having died back through lack of sap, the roots not being able to supply it fast enough to the parts youngest and most distant, hence in a waterlogged soil it is not uncommon to find trees of various kinds dying from the extremities downwards, and this we think is the cause in your case. The water from the roof you name is undoubtedly the cause of the mischief, the stem or branches of the Magnolia being kept more or less wet, and then frost occurring, would cause the destruction of the part, and the decay of the portion of branch or stem below frequently follows. The part of root stem with shoots springing from it is far from healthy, there only being sound bark where the sucker has proceeded. There is no doubt of your having done the proper thing for both the Magnolia and Ampelopsis in providing a down pipe to carry off the water from the roof, and also in preparing a proper station for the Ampelopsis; and it would be advisable to pursue a similar course with the Magnolia—namely, root it up, and after duly preparing the ground plant a young healthy tree.

Cracking in Pears (*J. D., jun.*).—The cause of the cracking is attack by a fungus named *Fusicladium dendriticum* var. *pyrinum*. It attacks the leaves and green shoots as well as the fruit, and first appears on the leaves or young shoots in the shape of smoky greenish spots, more or less circular in outline. These gradually enlarge, and frequently several of them run together, so as to form good sized blotches; as they grow older their colour darkens, finally becoming almost black. The upper surface of the leaf is usually affected. The parasite sometimes attacks the newly formed fruit, which shrivels the young Pears and causes them to drop. The cracking is due to the hardening of the skin, and dwarfing the growth of the affected part. The disease may be prevented by the following treatment:—In the spring, just before the leaf buds open, spray thoroughly with dilute Bordeaux mixture (1 lb. of copper sulphate and 1 lb. of freshly burned lime to 12½ gallons of water). Repeat the application a little later, just before the blossoms open. Spray for the third time just after the blossoms have fallen, adding ¾ oz. of Paris green paste for the codlin moth if desired. Ten days or a fortnight after this third application spray again with the combination of dilute Bordeaux mixture and Paris green paste. Care should be taken not to apply the Bordeaux mixture too late in the season.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless *A ples* and *Pears* sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (*J. M.*)—1, Bismarck; 2, Tyler's Kernel. (*Rev. Dr. D.*).—The specimens reached us somewhat crushed through being fully ripe when packed; they are probably Beurré Hardy. (*F. L.*).—There was no number on the yellow Apple, which is Golden Noble; 3, Beauty of Kent; 4, Blenheim Pippin, highly coloured; 5, Maltster. The Pear was crushed beyond the possibility of identification. (*W. H. M.*).—1, Maltster; 2, Waltham Abbey Seedling. (*E. W.*).—2, Sussex Ducksbill; 3, Hambledon Deux Ans; 4, Nonpareil; 5, Baddow Pippin. None of the others is characteristic of any known varieties, and if the specimens are typical they are not worth growing. (*C. R.*)—1, Gloria Mundi; 2, Winter Hawthornden; 3, Carlisle Codlin; 4, Northern Greening; 5, Yorkshire Greening; 6, Roundway Magnum Bonum. (*W. B. B.*).—1, Potts' Seedling; 2, Lane's Prince Albert; 3, Tower of Glamis; 4, Lord Derby; 5, Bedfordshire Foundling; 6, Hanwell Souring. (*R. P. H.*).—1, Gloucestershire Costard; 2, Adam's Pearmain; 3, Fearn's Pippin. (*N. C. S.*).—1, Aromatic Russet; 2, Beauty of Kent; 3, Yorkshire Beauty 4, Cellini; 5, New Hawthornden; 6, Golden Noble.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the

best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. M.*).—The Grass is probably the Wavy Hair Grass (*Aira flexuosa*), but it is almost impossible to distinguish the species without the inflorescence. (*L. D.*).—1, *Maxillaria picta*; 2, *Odontoglossum crispum*, poor form; 3, *O. hystrix*. (*K. H.*).—1, *Cotoneaster Simmondsi*; 2, *Andromeda floribunda*; 3, *Garrya elliptica*; 4, *Cotoneaster microphylla*; 5, *Crataegus pyracantha*; 6, *Skimmia japonica*.

Covent Garden Market.—October 31st.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.	
Apples, table, $\frac{1}{2}$ bush. ...	2	0 to 3	0	Oranges, case	10 0 to 15 0	
„ cooking, bush. ...	1	6	5 0	Peaches, doz. small... ..	1 0	2 0
Cobnuts, doz. lb., best ...	4	0	5 0	„ doz. good size... ..	6 0	9 0
Figs, green, doz.	0	6	0 10	Pears, crate	3 0	7 0
Grapes, black	0	6	2 6	Pines, St. Michael's, each	3 0	6 0
„ white	1	6	3 0	Plums, $\frac{1}{2}$ bush.	1 0	2 6
Lemons, case	10	0	20 0	„ Californian, case	4 0	6 0
Melons, house, each ...	0	6	1 6	„ stewing, case of		
„ water, case	3	6	5 0	72 to 120	4 6	6 6
Nectarines, doz.	1	6	9 0			

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.		
Artichokes, green, doz. ...	3	0 to 4	0	Lettuce, doz.	0 9 to 0 0		
Asparagus (Sprue Grass) ...	1	0	1 3	„ Cos, score	0 6	2 0	
Aubergines	1	0	1 6	„ Paris Green	5	0	6 0
Beans, scarlet, bush. ...	2	0	3 0	Mint, green, doz. bnchs.	2	0	0 0
Beet, red, doz.	0	6	0 0	Mushrooms, forced, lb. ...	1	3	1 6
Brussels Sprouts, sieve...	1	6	2 0	„ outdoor, lb.	0	4	0 6
Cabbages, tally	3	0	5 0	Mustard and Cress, punt.	0	2	0 0
Carrots, doz. bnch....	2	0	3 0	Onions, Dutch, bag ...	4	0	4 6
Cauliflowers, doz.	1	0	2 0	„ English, cwt.	5	0	0 0
Celery, bundle	1	0	0 0	Parsley, doz. bnchs. ...	2	0	0 0
Cucumbers, doz.	1	6	3 0	Potatoes, cwt.	3	0	5 0
Endive, score	1	6	0 0	Shallots, lb.	0	2	0 3
Herbs, bunch	0	2	0 0	Spinach, bush.	1	0	1 6
Leeks, bunch	0	1½	0 0	Tomatoes, English, lb. ...	0	2	0 5
				Turnips, doz.	2	0	3 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.				
Asparagus, Fern, bunch	1	6 to 2	6	Maidenhair Fern, dozen					
Carnations, 12 blooms ...	1	0	3	0	bunches	4	0 to 8	0	
Cattleyas, doz.	9	0	24	0	Marguerites, doz. bnchs.	2	0	4	0
Chrysanthemums, dozen					„ Yellow, doz. bnchs.	2	0	4	0
blooms	1	0	3	0	Odontoglossum	3	0	4	0
Eucharis, doz.	2	0	3	0	Roses (indoor), doz. ...	2	0	4	0
Gardenias, doz.	1	0	2	0	„ Red, doz.	1	0	2	0
Geranium, scarlet, doz.					„ Safrano, doz.	1	6	2	0
bunches	6	0	9	0	„ Tea, white, doz. ...	1	0	3	0
Lilae, white, bunch, ...	4	0	6	0	„ Yellow, doz. (Perles)	2	0	4	0
Lilium lancifolium album	1	6	2	6	„ English, La France,				
„ „ rubrum	1	6	2	6	doz.	1	0	2	0
„ various	2	0	3	0	Smilax, bunch	2	0	4	0
Lily of the Valley, 12 bun.	6	0	15	0					

Average Wholesale Prices.—Plants in Pots

	s. d.	s. d.		s. d.	s. d.
Acers, doz.	12	0 to 24	0	Foliage plants, var., each	1 0 to 5 0
Arbor Vitæ, var., doz. ...	6	0	35 0	Geraniums, scarlet, doz.	6 0 10 0
Aspidistra, doz.	18	0	35 0	" pink, doz. ...	8 0 10 0
Aspidistra, specimen ...	15	0	20 0	Hydrangeas, white, each	2 6 5 0
Azaleas, various, each ...	2	6	5 0	" pink, doz. ...	12 0 15 6
Boronia, doz.	20	0	24 0	" paniculata, each	1 0 3 0
Cannas, doz.	18	0	0 0	Lilium Harrisii, doz. ...	8 0 18 0
Crotons, doz.	18	0	30 0	Lycopodiums, doz. ...	3 0 6 0
Dracæna, var., doz. ...	12	0	30 0	Marguerite Daisy, doz. ...	8 0 10 0
Dracæna, viridis, doz. ...	9	0	18 0	Mignonette, doz.	8 0 12 0
Erica, various, doz. ...	8	0	18 0	Myrtles, doz.	6 0 9 0
Euonymus, var., doz. ...	6	0	18 0	Palms, in var., each ...	1 0 15 0
Evergreens, var., doz. ...	4	0	18 0	" specimens	21 0 63 0
Ferns, var., doz.	4	0	18 0	Roses, doz.	6 0 18 0
" small, 100	4	0	8 0	Stocks, doz.	8 0 12 0
Ficus elastica, each ...	1	6	7 6		

Gardeners' Charitable and Provident Institutions.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. Brian Wynne, 8, Danes Inn, Strand, London, W.C.



Farmers' Independence.

On shall we call it exclusiveness? No; the word independence is the better, for farmers are socially of a friendly disposition, and it is only when business is mentioned that they draw back, each into his shell, full of suspicion and jealousy.

In days gone by, when competition for farms was so keen, cases of mean underhand dealing may have done much to engender suspicion and ill will between neighbours, but as owners cultivating their own soil are equally difficult to get into line for mutual benefit, land hunger cannot altogether be blamed for this trait in the agricultural character.

Attempts to form farmers' combinations have been made hitherto with such little success, that it is with some diffidence we offer any suggestions on such a difficult subject. A well-known northern farmer writes us: "I am afraid I cannot write very cheerfully about organisation amongst farmers. My experience is that it is most difficult to get them to combine for any purpose whatever: there is so much jealousy one of another." The surprising thing is that such should be the case, whilst everyone with whom the farmer deals combine together against him. His chief customers, the butchers, millers, maltsters, and corn merchants, all have their well-organised associations, and most loyally do they support them; whilst the merchants and manufacturers from whom the farmer purchases his manures, seeds, and feeding stuffs are equally well combined, as witness the recent huge amalgamation of seed-crushers and the dearness of oilcake at the present time.

We are afraid that the chief cause of the farmer's great unwillingness to combine with his neighbours is obstinacy; he will neither be led nor driven, and only necessity will make him move either way. He must be roused from his fatalistic lethargy first, and must be imbued with the idea that his own and his neighbours' interests are identical, before any real and practical cohesion can be brought about.

Judging by the lessons of previous experience we find that, as far as we know, two separate causes have worked to temporarily bring farmers into unity of action; first a common righteous resentment, second a common and palpable self interest. An illustration of this was seen a year ago in the East Riding of Yorkshire. The Hull butchers tried to force upon the Hull auctioneers the giving of a guarantee with each head of stock sold that it was not affected by tuberculosis. The auctioneers naturally consulted their clients the farmers, who declined to allow the guarantee; the butchers persisted, and boycotted the market. The farmers, organised by two or three energetic leaders, were thoroughly roused, and when the Hull market authorities were inclined to give way they also boycotted the market, and made the butchers fetch their cattle considerable distances from other markets, so that in a very short time they were ready to go back to the old system, and they now have a system of insurance against the seizing of a tuberculous beast after purchase by auction—*i.e.*, if a beast is seized the butchers' association recoups the loss to the individual buyers, and the farmer sustains no loss. This is the only instance of which we know that farmers in combination have beaten butchers, and it was only the fear of individual loss, to which every owner of fat stock would have been liable, that induced them to combine against a common foe.

But combination for purchase is the point from which any future organisation must start if it is to be successful. Many companies have been successfully floated by farmers for the mutual supply of manures and feeding stuffs, and very beneficial they are as long as the bulk of the shares have remained in farmers' hands. There is, however, a tendency for them to drift into the hands of the general public, and an association such as we would advocate should not take the form of a public company, but should be limited to occupiers of land, who should all be customers of the association, and bind themselves to purchase neither foodstuffs, manures, nor seeds through any other agency. That there is margin for considerable profit in the wholesale purchase of these commodities is fully shown when we state that we have been offered £2 per ton commission for selling a £6 manure. As we could not conscientiously ask our friends to purchase an article so much above its real value we declined the agency. We know that such commissions (30 to 40 per cent.) are not uncommon in the trade.

If farmers can be brought into line for the purchase of requisites for the farm, and can thus, by combination, realise practical monetary advantage, a start will have been made. But how is the association to be extended for other purposes?

To hold farmers tightly together they must have something to lose by separating, therefore they must get such advantage by trading with the association as will effectually bind them as to mutual action in regard to labour troubles and rent disputes, with tenant right and similar questions. Social clubs are of no use practically, and the social side must be a secondary consideration, and simply a corollary to the business one. Farmers will ride to markets and fairs together, and agree that landlords are grasping and labourers idle, but nothing can make them refrain from over-bidding each other for farms, whilst labourers, though receiving excellent wages, come and go at what time they please, and farmers will not combine to bring about an alteration.

We are confident that the only form of farmers' association that will stand any lengthened test is the mercantile one for joint purchase of farm necessities, which also may be extended to the mutual sale of farm produce, and to the joint dispatch of small quantities of produce to market so as to reduce the cost of freight.

A body such as we have in view should meet at some central place monthly for the reading of papers on farming topics and discussion thereon, and membership should depend on attendance at a due proportion of these meetings.

Work on the Home Farm.

The weather remains nice and open, and farm work progresses well; there is every prospect of autumn work being completed both early and satisfactorily. This will be a great help in these days of labour difficulties. We know that many farmers are looking forward with dread to the Martinmas hirings; last year men were almost impossible to obtain, and there is more likelihood that matters have got worse rather than better. With all their work well up to date farmers will be able to exercise a little more independence at the fairs.

Early sown Wheat has come up quickly and well, and another week will see the drill put away for the winter. The horses will then be employed in turning over the worked fallows with the chilled plough.

Cabbages sown in August have grown rapidly, and want transplanting. A good dressing of short muck must be applied to a breadth of well cleaned land, and ploughed in with an ordinary swing plough. If the Cabbages are planted 15 inches asunder in every third seam after the plough the rows will be about 28 inches apart, and about 15,000 plants will be required for each acre. Plants may be bought in the Lincolnshire fen districts at 1s. 6d. per 1000 free on rails, and there is no better variety than the old Enfield Market.

Cattle are still out and doing well. There is no necessity to bring them up until we have some frosty nights, but beasts intended for the Christmas fat markets should be in their stalls. Feeding will be expensive this winter with cotton cake at £5 5s. and linseed at £9. Barley is making only a moderate price, and barley meal will no doubt commend itself to feeders for use as far as wisdom dictates. Store stock are really very dear, and there is no certainty that spring markets will prove remunerative for the enhanced cost of food, so home—*i.e.*, farm grown food—Turnips and ground Barley must be made the most of.

Pigs are all housed and doing excellently; 30 to 40 lbs. per head per week of barley meal, with as many steamed Potatoes as the animals can eat, will make excellent diet. Some people use pig powders regularly, but a little sulphur given in the food once a week is a good safeguard against disease. A few cinders now and then are also much relished, and do good, whilst a watering of the floor and walls of the sty occasionally with a weak solution of phenyle helps to keep sanitary matters as satisfactory as they can be expected to be in connection with the pig.

Agricultural Returns.—Statistical tables were issued yesterday, showing the acreage under crops and grass, and the number of horses, cattle, sheep, and pigs in the United Kingdom, including the Isle of Man and the Channel Islands, according to returns made on June 4th, 1900. The total area under crops and grass was 47,789,441 acres against 47,795,270 in 1899; the corn crops covered 8,707,391 acres against 8,803,599 in 1899; the green crops occupied 4,301,774 acres against 4,274,063 in 1899; Clover, Sainfoin, and grasses under rotation took up 6,024,317 acres, against 6,105,832 in 1899; and permanent pasture or grass not broken up in rotation covered 28,261,529 acres against 28,100,672 in 1899. The total number of horses returned for the year ending on June 4th, 1900, was 2,000,402 against 2,028,092 in 1899; the aggregate of the cattle was 11,454,902 against 11,344,696 in 1899; the total of sheep was 31,054,547 against 31,680,225 in 1899; while the aggregate of pigs was 3,663,669 against 4,003,589 in the year preceding.



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BICOLOR GRANDIS.—Petals snowy white, large and broad, trumpet large and full yellow; late flowering. Strong Flowering Bulbs, per 1000, 120/-; per 100, 13/-; per doz., 1/9. Extra Strong Selected Bulbs, per 1000, 190/-; per 100, 21/-; per doz., 3/-.

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Some sorts of Bulbs noted out Price Lists.		Per 100.	1000.
Hyacinths in fine mixture, for bedding or forcing	s. d.	11 6	112 6
Hyacinths, single, first size, named, in several leading sorts, red, white and blue varieties, equal quantities, my selection	..	20 6	—
Single early Tulips, in the finest mixture	..	1 10	16 8
Double early Tulips, in the finest mixture	..	2 4	22 6
Duc Van Thol Tulip, mixed, excellent for early forcing	..	2 6	20 0
Sparaxis, in mixture	..	0 8	8 0
Triteleia uniflora, pure white, very fragrant	..	1 6	—
Ixias, in the finest mixture	..	0 6	5 0
Crocus, first size, in the finest mixture	..	1 2	10 0
Crocus, second size, in the finest mixture	..	0 7	5 0
Crocus, yellow, third size	..	0 6	4 2
Spanish Iris, in the finest mixture	..	0 7	5 0
Iris Kämpferi, mixed Japanese varieties	..	5 0	40 0
Iris sibirica, all sorts, in mixture	..	4 0	40 0
Montbretia crocosmiflora, orange scarlet	..	1 6	—
Narcis, Double Incomparabilis, primrose	..	1 6	14 0
Narcis, Single Van Sion, yellow trumpet	..	3 0	29 2
Narcis, Stella, white, yellow cup	..	1 4	12 6
Narcis, bicolor princeps	..	2 6	23 4
Gladiolus Marie Lemoine, cream, blotches purple	..	2 0	19 2
Gladiolus Brenchleyensis deep scarlet	..	2 6	20 0
Scilla Sibirica, intense blue	..	1 8	15 0
Hyacinthus candicans (Galtonia) white	..	5 0	45 10
Snowdrops, Galanthus Elwesii, giant flowered	..	1 10	15 0
Tritoma Uvaria (Red-hot Poker)	..	14 6	—
Lilies, in fine mixture	..	12 0	120 0
Narcis, Pheasant's-eye (poeticus)	..	1 2	10 0
Single Anemone, The Bride, pure white	..	1 8	15 0
Single Anemones, in the finest mixture	..	1 8	15 0
Ranunculus, French varieties, mixed	..	1 0	9 0
Ranunculus, Persian varieties, mixed	..	1 0	9 0
Gladiolus Colvillei alba, pure white	..	1 2	10 0

250 Bulbs of the same kind will be charged at the 1000 rate; 25 at the price per 100; 6 at the price per 12.

Collection D for spring garden, containing 1330 Bulbs £1 1/-; half of this, 11/-.

Collection B for indoor, containing 630 bulbs for 92 pot or glasses, £1 1/-; half of this for 11/-.

COTTAGE GARDENING; being an Essay to which the Royal Horticultural Society awarded Mr. W. EGERTON HUBBARD'S Prize, February 16th, 1870. By E. W. BADGER. Third Edition. Price 3d.; post free, 3½d. Office: 12, MITRE COURT CHAMBERS, FLEET STREET, E.C.

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Journal of Horticulture.

THURSDAY, NOVEMBER 8, 1900.

The Apple Viewed from Various Points.

WHETHER or no the Anglo-Saxon *Æpell*, a designation still in common use in the north of England and in Scotland, was considered as above all other fruits the most distinguished and the most valuable, it is a fact not without interest that the appellation has been applied to many other fruits in addition to those of the Apple tree, and also in one or two instances to vegetables as well, as for example the bulb of the common garden Turnip was known 300 years ago as an Apple, and equally early mention of the Cabbage occurs as the Apple Colewort.

But of all Apples none perhaps has given rise to greater diversity of opinion regarding its identity than the fruit which by its tempting appearance overcame the scruples of Adam's helpmeet Eve. We are not improbably indebted to Milton for the popular belief that the fruit was an Apple, "The goodly tree laden with fruit of fairest colours mixt ruddy and gold." Certain it is that none of the old writers favoured or even hinted at the Apple as the fruit. "Adam's Apple" so mentioned by Maundeville as "the Appulle Tree of Adam that han a byte at on of the sydes." According to the French several varieties of the Orange are known by the name of Pomme d'Adam; here botanists bind us down to one kind, but whether one or many the mark of the bite is essential. Lyte, describing *Musa paradisiaca*, says, "The Greekes and Christians of ye cuntry (Syria), as also ye Jewes, do say that this was the fruite whereof Adam dyd eate." It also is mentioned by Maundeville, who states, "Men clepen hem Apples of Paradys," and he further remarks on "the figure of the Holy Cros" being found in the fruit if cut either across or lengthwise. In due time the figure of a man on

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the cross was added, and this belief was not confined to English, but is mentioned by continental writers too.

Gerarde in his quaint way declares, "The crosse I might perceive, but the man I leave to be sought for by those that have better eyes and judgment than myselfe." He calls the Musa "Adam's Apple Tree." Leo Grindon was of opinion that the forbidden fruit was the Quince, and others show reason for thinking the Apricot must have been the tree, and to these fruits the golden Apples of the Hesperides have been also referred, as well as to the Orange.

The Pine Apple presents a curious, though a by no means solitary example, of the way names were transferred from one plant to another. For a very long time the Pine Apple was most commonly known as the Ananas. In Johnston's edition of Gerarde it is called the Pine Thistle, and Evelyn in 1661 refers to it as the "Queen Pine," and in 1668 as the "King Pine." Bradley, in his "New Improvements," gives with a figure of the plant two or three articles on the culture of this fruit, and truly says it "is call'd the Pine Apple from the resemblance the shape of its fruit bears to the cones or Apples of the Pine tree." Fir cones were invariably called Pine Apples by all the old writers. One of them, in a work on fishing, among other strange material for bait, recommending the "kernels of Pynapple trees burnt." How naturally it would follow that the new fruit should receive a name so expressive of its appearance, till it alone retained it, requires no comment.

Of Love Apples, or Apples of Love, there were no less than three distinct species of plants known by that designation, and of these the one of greatest antiquity is perhaps the Mandrake, or more correctly, Mandrage, which figures largely in the superstitious beliefs of mediæval and ancient times. The revisers of the Old Testament have given in a marginal note the reading "Love Apple" for the well known "Mandrake" in Genesis, but considering the latter is a name about which there can be no dubiety, while "Love Apple" is, or was, applied to other two plants, the old reading is undoubtedly the better. The common Love Apple of to-day is the popular Tomato, which was regarded 300 years ago as a food not beyond suspicion, and as a fact few people in England cared to use it. Lyte, who never saw it, thought it "dangerous to be used." Gerarde grew the plant as a curiosity, but condemns its use. In "The Countrie Farme" (1600) it is said to provoke "loathing and vomiting."

Parkinson states, "Wee onely have them for curiosity in our gardens," and so it continued till near the middle of last century, when they were cultivated here and there for flavouring soups. Tomato, it may be noted, is the Spani-h name for the plant, and it is only within the last quarter of a century that it has displaced the older name of Love Apple. Another of its old names was Golden Apple. The third plant on which the name of Love Apple was bestowed is the Egg plant, *Solanum ovigerum*. By that name it is referred to in "The Countrie Farme," and in terms by no means respectful to so interesting a fruit. But none of the old writers really esteemed it, but on the contrary warned their readers against using it. "Mad" Apple was its commonest name, and Lyte calls it also the Raging Love Apple. The French have yet another Love Apple (*Pomme d'Amour*), *Solanum Sodomæum*.

The Balm or Balsam Apple is not without interest, inasmuch as we find the common Balsam of our greenhouses almost always associated with it generally as the Female Balsam Apple, but in Davies' "Theory and Practice," this plant occurs without the distinguishing name indicative of sex. The first named is the *Balsamina momordica*, and very early we find it recommended under the name of Marvellous Apples to plant on arbours. The latter designation, and also "gratious Apples," they had "because of the marvailous vertue that they have to heale wounds." Gerarde mentions a case which occurred at Colchester of a merchant's wife who had been struck by lightning having been cured by application of Marvellous Apples. *Datura stramonium* appears at an early date as

the "Apple of Perowe," and the "Pricklie and Thornie" Apple. The corms of Cyclamens had the familiar appellation of Apples of the Earth.

The Apple itself, *Pyrus malus*, has a history bristling with points of utmost interest. The Paradise Pippin, for instance, was used on the Continent in the sixteenth century as a dwarfing stock, not, however, because better fruits were hoped for from trees on that stock, but largely to make them more suitable as hedge plants. The Paradise was already cultivated in London gardens in Gerarde's days, but he distinctly states "without grafting;" but in Parkinson's time the practice of employing it as a dwarfing stock was not uncommon, and for the same purpose as noted above, to "make a hedgerow of these low fruits."

Pomatum, along with other ingredients, had originally Apples in its composition, the particular variety being the Court Pendu, as we find in French recipes of the sixteenth century. The Apple used in England for this composition is not named, but not improbably it may have been the Pomwater, or Pome Water, a variety of great popularity which can be traced from the time of Lydgate, the poet monk, till it disappears about the beginning of the eighteenth century. *Par excellence* it was the Apple for roasting, hence called *Malus carbonaria*, and from a quotation by Brand it formed one of the edibles so freely dispensed by the well-to-do to the working classes on New Year's Day, and then, as would seem, also roasted, for the fruit was stuck full of Cloves. It was also selected on account of the good quality of its pulp to form the once popular Christmas delicacy, Lambswool, which was sometimes used medicinally also. The Pomwater enters into the composition of a strange "medicine for the greatest laske." The fruit was roasted and the "pap" mixed with an equal quantity of chalk "finely scraped." This was placed for twenty-four hours plaister-wise above the region of the stomach, and repeated until a cure was effected. As well as cooked, it was eaten in winter for dessert, and, according to Evelyn, was at its best in January and February. The fruit was very large, and not unlike in shape to the Dutch Codlin.

Pomewater is no doubt a corrupted form of some old French appellative, but what that was it is now impossible to determine. The partiality shown by our ancestors for certain fruits for particular purposes was by no means confined to the one or two named, Codlin pies and Codlin tarts, and further examples, and were compounded largely of "grene Apples from the trees" coddled in "scalding water without breaking." Kentish Codlin, according to Parkinson, was the "best to coddle of all other Apples," and Dr. Hogg has identified this with the English Codlin, a fruit like to but somewhat larger than Keswick Codlin, but the tree not nearly so fruitful. Pearson's Plate, according to Switzer, was cooked in Devonshire in the same way as Beefings are in Norfolk, and eaten as a sweetmeat. Pippins were cooked in pies as well as being eaten after dinner like John Apples and Pearmaines. Russetings were considered the best of Apples for cooking, and the Rambour Franc was much used in sweetmeats. Reid (1683) tells us that in Scotland, among other ways of using the Apple, the fruit was "fry'd by shavers (slices) with a little butter" and "stew'd betwixt two plates."

Two hundred and fifty years ago cider was made of the same fruits as are popular now in the cider counties, but we find also Golden Pippin, Kentish Pippin, Kentish Codlin, Pearmaines, and other good Apples named for the purpose which are not now employed.

The Apple too holds a no small place in folk lore, but of this phase it is not convenient to enter on now. Snapdragon bobbing in a tub of water for Apples on All Hallows. Still customary in the north on Hallowe'en, eating an Apple in front of a looking-glass.

Wee Jennie to her grannie says,
"Will ye go wi' me grannie?"
I'll eat the Apple at the glass
I got frae uncle Johnnie.'

Divining by means of parings of the skin and the kernels of Apples are but a few of these forgotten practices.—R. P. BROTHERSTON.



Treatment of Stanhopeas.

THESE plants may be much better grown than they are in many places if a little of the careful treatment that is bestowed on more popular genera was accorded them, and no one who has seen well flowered specimens of *S. eburnea* or *S. tigrina* will deny that they are worthy of a little care. The flowers, though evanescent, are nevertheless very beautiful and fragrant, while their grotesque forms and beautiful texture never fail to excite admiration. Stanhopeas will not flower if frequently disturbed at the roots, but every year they should have a little of the surface compost removed and replaced with fresh sphagnum and charcoal, the early spring months being the best time to do this.

Any plants that are unhealthy should be shaken out of the compost, well washed in tepid water, and all decayed roots cut away. They may then be replaced in either teak or copper wire baskets, using for compost fresh sphagnum, plenty of charcoal, and a little good loam fibre. Large pieces of charcoal should be laid in the bottom of the basket, and placed as far apart as possible to allow the flower spikes to descend, then a layer of moss over these and around the sides of the baskets. The plants must be firmly set in position, as the young roots when formed are very brittle. If the old roots are plentiful this is easily managed, but if not they must be tied securely to the sides until re-established.

All the kinds mentioned below will flourish if kept well up to the glass in a warm house in the summer, and they should be liberally watered both at the roots and on the foliage while growing. In the winter they may be removed to cooler and drier quarters. This will rest the plants, and also tend to keep insects in check. The species most generally grown are *S. eburnea*, *S. Bucephalus*, *S. insignis*, *S. oculata*, *S. tigrina*, and *S. Wardi*. All these, with the exception of the first named, have flowers of various shades of yellow more or less spotted or blotched with purple or crimson, while the flowers of *S. eburnea* are wholly of pure white. The newer *S. Amesiana* (fig. 113) is ivory or porcelain white. It was first exhibited by Messrs. H. Low & Co. in 1893.—ORCHIDIST.

Standard Currants and Gooseberries.

THIS method of growing Red and White Currants and Gooseberries might with advantage be more widely adopted, as it is an interesting, economical, and profitable way of growing these fruits. It is especially adapted for growing on limited spaces. A mixture of standards and bushes forms a very attractive fruit garden. The trees may be grown by anyone from cuttings, or the trees may be obtained already shaped and only require establishing and the heads enlarging, to be productive.

If it is decided to grow the trees from cuttings select strong

cuttings about 18 inches long, and insert these in the ground, removing the lower buds altogether for about 6 inches, this part being inserted in the ground. The cutting may remain unshortened, and all the buds encouraged to break, including the terminal bud, which must be permitted to extend the stem upwards. When the side shoots have formed two leaves, pinch them at this point and at one afterwards. These growths will strengthen the main stem, and by suppressing them from making vigorous growth, this largely benefits the terminal shoots, which will extend remarkably well. If it reach a length of 4 feet the first season it will be ample, and the growth may be shortened to 3½ feet. Select about five shoots from each to form the head when the



FIG. 113.—STANHOPEA AMESIANA.

buds push in spring. The side growths on the stem may be shortened to two buds in winter.

After the third season gradually remove these growths, as by that time they will have fulfilled their purpose—namely, strengthening the growth of stem during early stages. The five shoots encouraged to form the head may, in winter, be pruned to 9 inches, which will induce additional shoots, enough to form a symmetrical head. Side growths will push on the older wood, and as these will crowd the head and be of no practical service, pinch the growth in summer to two leaves and originate spurs by close pruning in winter. The following year the additional shoots will push side growths the same. Treat them similarly each year.

Place strong firm stakes to the trees and mulch with manure during summer, also water freely if required. The trees are easily protected from birds by netting when the fruit is hanging ripe.—E. BARROW.

A Chat on Daffodils.

A Historical Sketch by Peter Barr, V.M.H.

(Concluded from page 396).

The Greeks used to send their lunies to an island in the Archipelago where this plant grew, to eat the roots of it. Haworth was a scientific man of many studies, and a prolific writer on natural history. He, like Parkinson, undertook the task of setting in order the Daffodil nomenclature, and prepared a monograph, the latest revision of which I am the proud possessor, and I know of no other copy. This was published 1828. I think Haworth died the following May. The earlier edition is bound up in Sweet's "British Flower Garden." The 1828 edition has one error, and that error gave me much trouble. *N. obvallaris*—he gives its habitat as Truby instead of Tenby, and I was in consequence many years in tracing up this charming and popular little Daffodil (fig. 114.) Herbert was the last of the set, and is more appreciated at the present day than when he lived. He was Dean of Manchester, and evidently was an aristocrat of aristocrats. He had Salisbury on one occasion under examination, and came to the conclusion he knew much, but had not the power of arranging his matter. It has, however, been shrewdly suspected that Salisbury had only been interviewed for brain picking purposes, and he led Herbert off the track. Herbert had a very poor opinion of Haworth's work; at the same time he made use of it for his *Amaryllidæ*. We are, however, bound to place Herbert on a higher peg than any of his contemporaries, and to him we are primarily indebted for all the beautiful Daffodils raised up to 1884. When writing his Daffodil monograph he took a more critical view of the whole family than Haworth, who treated all as species. Herbert, on the other hand, felt that many were hybrids and corresponded a good deal, especially with botanic gardens, to get seeds of certain sorts, but failed, and when he got rid of his book, commenced a series of experiments by crossing the Trumpet Daffodil with *Poeticus*. The result of this work he embodied in a treatise on hybridisation of vegetables in the forties, which was published in the "Transactions of the Royal Horticultural Society," and I have no doubt many took up the study; but only two men carried their work to the goal—Backhouse and Leeds. Herbert wrote a monograph of the *Croci*, which is to be found in the Lindley Library of the R.H.S. of Britain, and bound up with it his Daffodil, a water colour painting, the results of his crossing. Haworth, in his monograph, which has been followed by all writers since, Herbert included, called *Pseudo-Narcissus* of Parkinson, *Ajax*, *Incomparabilis*, and *Queltia*.

Baker of the Royal Herbarium, Kew, ever ready to help workers on any family of plants, while I was still working with the older forms of Daffodils, prepared a monograph, keeping on Haworth's lines, divided the family into *Magni-Coronati*, for Haworth's *Ajax* and Parkinson's *pseudo-Narcissus*, *Medio-Coronati* for Haworth's *Queltia* and Parkinson's *Incomparabilis*, and *Parvi-Coronati* for *Poeticus* and *Polyanthus Narcissus*. This, the last monograph, is certainly the best for avoiding confusion. Taking Baker's sizes and distinctions, you readily learn to distinguish to what section your flower belongs, and by this means you may run down the names of the variety, and in your seedlings you can tell whether you have an *Ajax*, an *Incomparabilis*, or a *Poeticus* form. I ought to name here an arrangement my friend Shirley Hibberd attempted, as chalice cup, goblet, &c., to my thinking a little too fanciful, but it pleases some, and I think anything that gives pleasure is a gain to the individual, even if a loss to science. I have thus dealt with what is known of the older Daffodils, and those who have worked on them, and this brings me to the modern Daffodil raisers. Backhouse, who raised all the most refined flowers which came into commerce in 1884, was a banker at Darlington, England, a man of great refinement, and by nature nervously sensitive. Leeds, who raised many fine Daffodils, but all more or less coarse, was a stockbroker in Manchester, and whose house can yet be seen almost opposite of the gates of the Manchester Botanic Gardens.

These two seedling collections came into my possession, and were classed and named by me, and in the spring of 1884 a great Daffodil Conference was held by the R.H.S. in the large conservatory at South Kensington, London. After the Conference a committee was appointed, and I was placed on my trial to answer my compeers for the dividing up and making so many new families. Mr. Baker, of monograph fame referred to, was in the chair, and held a brief on behalf of the botanical world, and I was called upon to justify my divisions. My reasons being considered satisfactory, Mr. Baker made botanical descriptions, had flowers pressed and examples painted, and these may be seen in the Herbarium at Kew Gardens. All Daffodils raised since 1884 are placed in the divisions I made, which, I may here state, are purely artificial. Leeds, for example, was a name given to white forms of *incomparabilis* to keep Leeds' name green; Backhouse, for the same reason; Barri, to preserve my own name as the classifier and namer of all new Daffodils up to 1884; Burbidge, in compliment to Mr. Burbidge for his labours connected with the literature of the Daffodil; Humei, with Mr. Hume, a relative of Joe Hume, as a co-worker

with me, and who would have attempted a popular monograph; Nelsoni, after the Rev. John Nelson, cousin of the great Lord Nelson, the most sympathetic co-worker I had. Both these gentlemen died before I had completed my work.

Seasonable Hints on Florists' Flowers.

I THINK that on the whole the fine autumn has been beneficial to florist flowers in general, but I fear that the number of those who are interested in them, as the older generation was, is diminishing instead of increasing. A friend buttonholes you, and begins to talk with you of the beauty of Auriculas, but you find on entering into the subject that he is thinking of fancy and border varieties, and either has little knowledge of the finer varieties of edged flowers, or speaks of them in contemptuous terms. "Oh! they are a great deal too formal," says he. One quickly finds that much of the enthusiasm which marked the growers of former days is wanting. There are, however, some who cherish the old ideas, and a few hints on their treatment at this season may not be unacceptable.

Auriculas.

At this season it will be necessary to place the plants in a frame or pit facing the south. For the last twenty years or more I have grown mine in a low pit, into which I could get without difficulty, and have the plants on a level with my eyes, where I was able to water them and do what other things were necessary without much exertion. The plants are supposed now to have made their root, and to be prepared for the winter's rest; all dead leaves should be taken away, and if there be any appearance of aphid on the leaves it must be brushed off or the pit or frames fumigated. Care must be taken with regard to the glazing, so that there is no drip into the pots, for this is the most injurious of all things to the Auricula. If severe weather come on the frames or pit should be covered with mats or other suitable covering. I daresay the plants would stand many degrees of frost, but I think the flowers would be defective. Where offsets have been taken off in the spring these might now be removed to thumb pots, kept close for a few days, and then placed in the shadiest part of the pit or frame. Little watering will be required during the winter months, and care must be taken when it is given that it does not get into the heart of the plant; air should be admitted freely except in very severe weather.

Carnations and Picotees.

That enthusiastic lover of these flowers, Mr. Martin R. Smith, has done a great deal to encourage their culture; he himself grows a very large number, and has generously distributed seeds to the members of the Carnation and Picotee Society, of which he is president. Many of these flowers are large and well formed, and by their vigour of constitution and striking colouring commend themselves to some growers. Many persons do not now take the trouble to layer their Carnations, but treat them as annuals, sowing fresh seed every year unless they have some peculiarly well marked variety, which they will layer in the usual way. Where layering has been resorted to the plants which are singly or in pairs in pots should be placed in frames or pots facing the south, receiving air when it is possible to give it and in mild weather. The spot, which is the greatest enemy which the Carnation has during the winter, may be avoided, I think, by giving the plants plenty of air, and when it does appear dusting the leaves with flowers of sulphur.

Gladioli.

It is now time to lift and store the corms of Gladioli; as far as I can judge they are in good condition. When lifted, they should be hung for a short time to dry in some frost-proof shelter. Where there is a desire to increase them the small corms should be rubbed off and put in paper bags until the spring. The old stocks ought to be laid out in trays or on shelves and not put into bags, as this is apt to encourage growth, which is prejudicial to their after well-being.

Ranunculus.

The Turban varieties, which are more robust than the Persian, should now be planted. They thrive well in any ordinary garden soil, and the tubers must be 4 inches apart in rows about 5 inches asunder. The Scarlet Turban makes a gorgeous bed, which, when the sun shines on it, is perfectly dazzling.

Tulips.

Here again we find how taste has altered. A well-known London firm has tried lately to bring them again into fashion, but I fear all efforts are unavailing. In the North the love for them still continues, though I am told even there it is not what it used to be. The late Dr. Hogg had an excellent collection in Sussex, but I cannot call to mind any grower in the south who now cultivates them. The 20th November is the orthodox time for planting the florist varieties, but the early flowering ones may be planted a little earlier. The early flowering Tulips may now be planted, and where place can be afforded beds of one variety such as Keizer's Kroon are most attractive. The ground should be well dug, trenched if needful, and the bulbs planted about 6 inches apart. The wonderful open weather which we are now experiencing is favourable to all kinds of planting, and the ground is very dry. Those who have not tried Parrot Tulips with their quaint form and brilliant colouring should certainly grow them.—D., Deal.

Tulips in Pots and Beds.

THOSE persons who have had opportunities of seeing the magnificent beds of bulbs in the London parks in spring, and especially those in Hyde Park, cannot have failed to be struck by the gorgeous effect of the large beds of Tulips, in which are represented all the most telling shades of colour that these handsome flowers embrace. Those who have not seen broad masses of these, the most brilliant of all spring flowers, have yet to learn what a dazzling picture is provided when the best varieties are planted in quantity. Few floral displays can equal it. The colours range from a deep purple or violet, almost claret, as in the distinct Wouverbans, to rich crimson, brilliant scarlet, bright orange and yellow, and through many beautiful shades of rose and pink to pure white. But some of the most beautiful Tulips are not self-coloured. In such charming varieties as Bride of Haarlem and Royal Standard we have a white ground, striped and barred with crimson. In others a white ground colour is delicately suffused with a distinct shade, as in the rose Duc Van Thol; this variety is not bright rose in colour, but white, with a dainty suffusion of rose; and it is one of the most attractive of all.

It is a not uncommon complaint that the early single and double Tulips are gaudy and glaring—that there is not sufficient “repose” about them. I may remark that numbers of persons who raise this objection to them are those who exhibit an enthusiastic admiration for such flowers as single Dahlias. Yet who will aver that the latter are less “gaudy” or less conspicuous for “lack of refinement” (these are the favourite phrases of the Tulip decriers) than the Tulips? I am afraid that opinions are guided on such points as this rather by fashion than by judgment.

Tulips are charming flowers for the greenhouse as well as for planting out of doors. A trio of distinct varieties in a 5-inch pot makes as pretty an object in a glass structure in spring as can be wished if all unfold at the same time and are of the same height; but as they vary in the latter respect, it is well to have only one variety in each pot.

Where gardens are possessed of sufficient size for planting beds solely with bulbs, Tulips may be largely used, as they are both brilliant and cheap. Ordinary soil that is well drained and not very heavy suits Tulips well. It should be well stirred before the bulbs are put in. If it is of a clayey nature a liberal addition of sand will improve it considerably, and if poor a dressing of soot dug in will add to its fertility in a marked degree. The bulbs may be about 3 inches deep and 6 inches apart. To plant them so closely that the flowers nearly touch is wasteful; for the effect is not greater, and many more bulbs are of course required. If Tulips are planted in beds in conjunction with Hyacinths, the latter in the centre, the ground should slope a little towards the edge, for many varieties are taller than the Hyacinths, and unless planted a little lower will overtop them and spoil the bed. Many persons who would like to grow a few Tulips in their gardens are not in a position to plant entire beds with them, but they can have beautiful clumps here and there by planting three bulbs about 3 inches apart.

The requisites for growing Tulips in pots for the decoration of the greenhouse are precisely the same as those needed in Hyacinth culture, namely, a supply of 5-inch pots, some crocks, a quantity of fertile sandy compost and of cocoa-nut fibre refuse to cover the pots with when filled. It would be well to purchase bulbs immediately, and in the meantime get everything in readiness for inserting them directly they come to hand, as it is quite time they were potted. Let the bulbs (three in a pot) rest on a pinch of sand, and pot them firmly, with the tips just visible through the soil. Plunge the pots in the cocoa-nut fibre refuse in a sheltered position, resting them on a layer of ashes, for five or six weeks, then remove one or two to see if they are pushing growth; and if they are, as they ought to be, remove them to the greenhouse or window, water as required, stake when the spikes have sufficiently developed to require it, and in due time charming pots of bloom will be had.—W.

Hyacinthus candicans.

THIS plant, with its Yucca-like foliage and handsome spike of white, pendent, bell-shaped flowers, is deservedly most popular. Correctly speaking, it should be referred to as *Galtonia candicans*; though introduced under the name of *Hyacinthus*, and closely allied to the *Hyacinth* genus, it is considered to be distinct from it by botanists; hence a new generic name was found for it, derived from that of Francis Galton, the author of a “Narrative of an Explorer in South Africa.”

Some doubt of its hardiness existed at first, but this has long since been dispelled. If the bulbs are placed 4 inches below the surface of the soil, and a mulching of litter is applied in autumn, there need be no fear of its being injured by cold; indeed, I know of many clumps that receive no such attention, yet pass the winter safely and increase in strength annually.

The flowering period of the *Galtonia* or *Hyacinthus* commences late in July or early in August, and continues for a considerable period. Though not having the advantage of coming into bloom at a time when flowers are scarce, and thus presenting a double claim

to attention, it is of sufficiently distinct character to be noteworthy, even amongst a crowd of annuals and perennials that are still far from past their best. It is, in fact, one of the handsomest of border plants. Growing 3 feet high and upwards, it is conspicuous by broad foliage and long spikes of graceful blossoms opening in succession.

Galtonia or *Hyacinthus candicans* is found to succeed best in light soil of a fertile nature, but it will do well in most soils that are well drained. Solitary plants have a poor effect compared with clumps of from three to twelve bulbs, which produce a grand effect in a suitable rooting medium. They are procurable in the autumn at the same time as Hyacinths, Tulips, and other bulbs, and may be planted at the least 4 inches deep in October or November. They are not expensive.

See that the soil is well drained, and work it well to the depth of a foot, incorporating sand if it is not of a porous character. Three bulbs may be inserted an inch or so apart, and will form the nucleus of a fine clump. When established, a mulching of well-decayed manure or leaf soil round the plants in autumn, and pointed in with a fork in spring, will benefit them, acting both as a fertiliser

and as a protector from frost. It may be added that the plant seeds freely, seedlings flowering in the second year.

But the plant is not valuable for outdoor cultivation alone; it is useful for pots also. Plants for conservatory decoration are not numerous in August, and a dozen bulbs of *Galtonia candicans* in a 9 or 10-inch pot are very effective when in bloom. Good turfy loam, with a fifth of well-decayed manure and a sprinkling of sand, will grow them well, placing the roots so that the crowns will be covered 2 inches deep. The pots should be efficiently drained, as the plants require plentiful supplies of water when in free growth.

In the winter they may be plunged in ashes outdoors, and be grown through the summer in an open situation, but sheltered from winds. The plants must be supplied with water and liquid manure, removing them indoors when the spike appears, if wanted early, or when the first flowers expand. If wanted to flower late they may be retarded by placing them in June at the north side of a wall, and they may then be had in bloom late in September. The flowers are good for cutting; and, when mounted, useful for bouquets.—H.

Salvia splendens.—One of the best plants for decorative purposes during winter is the old *Salvia splendens*, the bright scarlet flowers and bracts of which impart quite a gay appearance to a greenhouse or conservatory for a considerable portion of the dull season. It succeeds better and makes finer specimens if planted out during summer than if grown in pots all through the year.—F. B.



FIG. 114.—NARCISSUS OBVALLARIS (TENBY DAFFODIL).

NOTES & NOTICES

Recent Weather in London.—For several days past rain has fallen intermittently, and the atmosphere continues very mild.

In the Markets.—In the Central Avenue of Covent Garden Market there is a goodly supply of the new season's Chinese Lychee, a fruit much in favour for dessert. The Lychee has a thin serrated outer shell, which suggests a nutty affinity, and a highly saccharine flesh, something of the flavour of a Date, with a large stone or seed in the centre. The price of this fruit is from 1s. 3d. to 1s. 6d. a pound. In Leadenhall Market there are some Custard Apples, selling at 6d. to 8d. each; Blackberries at 4d. a pound; and there are still some Golden Drop Plums to be had at 8d. a pound, almost the last of the season.

Death of M. Edward Pynaert.—One of the names most familiar among those of continental horticulturists to this generation is that of M. Edward Pynaert of Ghent. We regret to chronicle his decease upon the 28th of last month at the age of sixty-five years. During the last ten years of his life he was unfortunately a sufferer from the complaint to which he ultimately succumbed. In addition to conducting a large business he officiated as professor in the Belgian School of Horticulture, and was a frequent contributor to the pages of the "Revue de l'Horticulture Belge" and the "Bulletins d'Agriculture." He was, moreover, a municipal councillor of Ghent, very active in all public matters, and the distinguished holder of several French, Russian, and Dutch orders, in addition to others bestowed upon him by his own country. His activity had made him widely known, and his genial and magnetic disposition contributed to gain him a large circle of appreciative and devoted friends, who, in losing him, feel that a life of much usefulness and benevolence has been but too early terminated.

Horticultural Instruction in Somerset.—We are favoured with a copy of the annual report for the year ending March 31st, 1900, of the Education Committee of the Somerset County Council, which extends to some 65 pages. It is easy to see what an exceptionally wide range of subjects is dealt with, as practically everything is embodied that is included in the majority of technical education schemes. The gardening is, however, of most interest to horticultural readers, and it cannot be doubted that much excellent work is being done. The instructor in gardening, Mr. John Ettle, gave lectures last winter in twenty-four different centres, and had a total attendance of 745 persons. In addition to these, outdoor work and special demonstrations have been numerous, and in almost all cases the attendance has been most gratifying. Mr. Ettle, too, has judged at several shows, and found an excellent average of quality. The council has apparently eight sets of school gardens, which are all proving a success under the guidance of local instructors, supervised by the county instructor in horticulture. Such work as this, consistently followed up, cannot fail to be productive of good to the gardening throughout the county.

Birmingham Gardeners' Association.—One of the best attended meetings of the present session was recently held at the Athletic Institute, with Professor W. Hillhouse, M.A., F.L.S., of Mason's College (the president), in the chair. Mr. H. Stone, Birmingham, gave an exceedingly interesting lecture entitled "Timber from a Botanical Standpoint," illustrated by lantern slides. As a purchaser and turner of both native and exotic woods, Mr. Stone's intimate knowledge of botany, and especially the structure and nature of the numerous kinds of woods which have come under his cognisance commercially, enabled him to deal with the subject in an exceptional manner, and which was further aided by the specimens portrayed under the lantern development. Photographs were also shown of fruiting branchlets of the British Oaks (*Quercus pedunculata* and *sessiliflora*). Mr. W. Gardiner (the librarian) also brought branchlets of the two Oaks to show their respective forms of foliage and fruit; also cut examples of *Crataegus coccinea* and *orientalis* profusely berried from Harborne. At the close of the lecture Professor Hillhouse exhibited an interesting set of veneers of woods, and also in most appreciative terms testified to the highly instructive lecture of Mr. Stone, and which was endorsed by Messrs. W. B. Latham and John Pope.

Death of Mr. John Morle.—We regret to record the sudden death of Mr. Morle, who for the past twenty-four years has been foreman of the fruit departments at Southfields, Langley, and Feltham for Messrs. Jas. Veitch & Sons, Chelsea. Mr. Morle was at business on Saturday, October 27th, and was out on Sunday, but died on Monday, the 29th, from apoplexy.

Agricultural Insurance.—At a meeting of the Bucks Chamber of Agriculture at High Wycombe recently, under the presidency of Mr. W. H. Grenfell, M.P., the question of agricultural insurance was considered. It was resolved, on the motion of the chairman, that an appeal be made to insurance companies to return to the former tariff in regard to agricultural insurance, and that, failing such concession, the formation of a Farmers' or Agriculturists' National Mutual Insurance Society be considered by the whole of the Chambers of Agriculture.

Hitchin Chrysanthemum Society.—On Thursday, November 15th, this society will hold its annual exhibition in the Corn Exchange. The schedule comprises about five and a half dozen classes devoted to Chrysanthemums, general plants, fruit and vegetables. Some of the classes are open to all subscribers, others are arranged for the convenience of amateurs, while neither ladies nor cottagers are forgotten. The hon. secretary is Mr. W. G. P. Clark, York Road Hitchin.

The late Mr. John Harper.—It is with much sorrow that one pens a brief obituary notice of a good gardener, who was for many years a reader of our Journal. Mr. John Harper was a native of Ayrshire, I understand. Originally a weaver, his love for flowers led him to abandon that occupation when he had almost reached the age of manhood, in order that he might devote himself to the work he loved so well. He wisely served an apprenticeship to the craft, and after gaining considerable experience, eventually became head gardener at Annick Lodge, in Ayrshire. Here he remained for several years, keeping the gardens in splendid order. After several reductions had been made in the staff, Mr. Harper resigned his situation, and finally secured a similar one in the employment of R. Maxwell-Witham, Esq., at Kirkconnell, Kirkcudbrightshire, where he died on October 30th. His constitution had been undermined by serious illnesses during the two past winters, and an attack of pneumonia had a fatal termination. Mr. Harper never lost his love for flowers, and it would be difficult to say whether he cared more for florists' flowers or for herbaceous plants. An old grower of the former, he was an excellent judge of their quality. At Kirkconnell he had a large number of these plants under his charge, and the position they took at shows was a proof that he was as good a grower as a judge. His place will be hard to fill. As a man he was to be admired for his staunchness to principle. It was occasionally my privilege to go round the garden in his company, and one will never see it again without thinking of that true gardener who has just passed to his rest.—S. ARNOTT.

Devon and Exeter Gardeners' Association.—The opening meeting of the session was held on the 31st ult. in Exeter Guildhall, and was presided over by Mr. Andrew Hope, hon. secretary, the lecturer being Mr. Allen H. Ware, Ph. Ch., lecturer at the Royal Albert Memorial College, technical department. His subject was "Studies in Plant Life." There was a large attendance of members and students in botany from the Memorial College, the Middle School, and St. John's Hospital School, many lady teachers being present. Mr. Ware, who illustrated his lecture by pictures thrown on a screen by limelight, commenced by showing the structure of leaves, and the part they took in building up the plant. Many interesting examples were exhibited to show the marvellous manner in which plants adapt themselves to their surroundings, protect themselves from their foes, and help themselves from the larder of the atmosphere which surrounds them, occasionally borrowing from their neighbours. A typical collection of plants, insectivorous and other kinds, was lent by Mr. Veitch for the occasion, and the specimens examined with much interest by the students. The lecture throughout was deeply interesting and instructive, and was listened to with marked attention. The chairman, in moving a vote of thanks to Mr. Ware, hoped that one effect of the lecture would be the taking of greater interest in botanical study by young gardeners, to whom, after the acquirement of some of the technical terms, it would prove an absorbing, delightful and useful study. It served to show how thin was the dividing line between the animal and the vegetable kingdoms, and that nothing had been made in vain in the plan of creation.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

The Royal Botanic Society.—It has been decided by the Council of the Royal Botanic Society not to proceed with the establishment of the proposed Botanical Institute at Regent's Park until the commencement of the new lease of the gardens in April next. This will in all probability, says the "Daily News," be founded on much the same lines as those already existing in connection with the Botanic Gardens in Dublin, Edinburgh, Oxford, Cambridge, and elsewhere. There are at present in Regent's Park a museum, lecture theatre, and small library and herbarium, which will form an important nucleus for any such undertaking, the need of which is greatly felt by intending emigrants who now obtain their instruction in Germany. Among the London institutions whereat botany is taught are the Royal College of Science, the Pharmaceutical Society, University and King's Colleges, the Royal Veterinary College, the Birkbeck and Polytechnic Institutes, the Hospital Medical Schools (?), and a number of private schools, but to none of these is there any garden attached. It is hoped that the new institute may be affiliated with the London University.

Bournemouth Gardeners' Association.—The following arrangements have been made for the meetings of this society during the winter. The meetings are held at 7.30 on Tuesdays in the Wilberforce Assembly Rooms, Holdenhurst Road, Bournemouth. November 20th, "Iron in the Soil and in Plants," A. Key, Esq., M.A., Oxon.; December 4th, lecture, arranged by the Director of Technical Instruction, Hants C.C. (subject to be announced); December 18th, "Our Gardens; How to Secure a Succession of Flowers," J. B. M. Camm, Esq. January 1st, 1901, annual supper; January 15th, "Experiments with Chemical Manures," F. W. E. Shrivell, Esq., F.L.S., Thompson's Farm, Tonbridge; and February 5th, annual meeting. Members are invited to bring specimen plants to the meetings, which must be staged not later than 7.15 P.M. If these are brought with the view of obtaining a certificate notice should be given to the secretary two days previous to the meeting. The secretary is Mr. J. B. Stevenson, Chine Gardens Cottage, Bournemouth.

Croydon and District Horticultural Mutual Improvement Society.—A special meeting of the society took place in the lecture hall of the Croydon Public Library on Tuesday evening, October 23rd, when there was an exhibition of the books on botany, horticulture, agriculture and kindred subjects, in the Central Library. Mr. E. Kromer, Bandon Hill, occupied the chair, and Mr. W. J. Simpson, Falkland Park Gardens, the vice-chair. Mr. Alderman Foss, chairman of the Croydon Public Libraries Committee, welcomed the members of the society and invited them to inspect the fine collection of books arranged on the table, and expressed the wishes of the Libraries Committee that the books provided by them should be read to the fullest extent. The chairman next introduced Mr. John Weathers, of Isleworth, who gave an excellent exposition of his views on "Horticultural and Botanical Books," pointing out their principal contents and those specially useful to the horticulturist and botanical student. Mr. Weathers, having complimented the borough on the fine collection of books in the Public Library, then divided his subject, treating of the various branches of horticulture, soils, manures, hardy perennials, Ferns exotic and hardy, Bamboos, trees, shrubs, Palms, Orchids, fruit, vegetables, landscape gardening, plant diseases, insect friends and foes. Mr. Weathers' extensive knowledge of horticultural and botanical literature enabled him to give to the members that advice frequently required, and on the proposition of the chairman a vote of thanks was given to Mr. Weathers. The secretary, Mr. Gregory, called the attention of members to the excellent and valuable catalogue of books compiled by Mr. Jast, chief librarian, and his assistant, Mr. Savage, and published by the society, which is being distributed to the members, Mr. Gregory pointing out that probably this was the first occasion a horticultural mutual improvement society had published a catalogue of books on special subjects in a public library. Mr. Jast kindly gave some very useful information as to the lending and reference libraries under his charge, and a hearty vote of thanks was accorded him for his valuable services to the society, also to Mr. Alderman Foss and the Libraries Committee for the use of the hall and the warm welcome given to the society.

Gardening Appointment.—Mr. Alfred Bayford, late of Brandries Gardens, Beddington, Surrey, has been appointed as head gardener to W. Fletcher, Esq., Oakham, Edenbridge, Kent. Mr. Bayford left Brandries owing to the death of his employer, and took up his new appointment on 27th inst.

The Weather in October at Hodsock Priory, Worksop, Notts.—Mean temperature, $49.4^{\circ} + 1.7^{\circ}$; maximum in screen, 68.3° on the 7th; minimum in screen, 29.3 on the 4th; minimum on grass, 20.9° on the 16th. Number of frosts in shade, 2; on grass, 15. Sunshine, 86 hours, or 27 per cent. of possible duration; difference from average, + 2. Rainfall, 2.62 inches; difference from average, - 0.16. Rain fell on nineteen days; maximum fall, 0.93 on the 26th. Rain from January 1st, 22.17 inches; difference from average, + 1.08. A mild month, with normal rain and sun. The bulk of rain fell in the last week.—J. MALLENDER.

Sussex Weather.—The total rainfall for the past month at Abbot's Leigh, Haywards Heath, was 1.99 inch, being 1.88 inch below the average. The heaviest fall was 0.40 inch, on the 29th; rain fell on fifteen days. The maximum temperature was 67° , on the 7th and 18th; the minimum, 35° , on the 23rd, 27th, and 28th. Mean maximum, 57.27° ; mean minimum, 42.13° ; mean temperature, 49.70° , which is 1.34° above the average. A fine pleasant month, but not quite satisfactory, in that the soil is much too dry with us for planting operations and for the swelling of fruit buds. No frost has occurred to injure Dahlias or Beans, and Chrysanthemums outdoors are supplying good cut flowers in abundance.—R. I.

October Weather at Belvoir Castle.—The wind was in a westerly direction twenty-seven days. The total rainfall was 1.98 inch, this fell on twenty-one days, and is 1.10 inch below the average for the month; the greatest daily fall was 0.52 inch on the 26th. Barometer (corrected and reduced): highest reading, 30.603 inches on the 22nd at 9 A.M.; lowest reading, 29.220 inches on the 26th at 9 P.M. Thermometers: highest in the shade, 70° on the 9th; lowest 29° on the 22nd; mean of daily maxima, 55.77° ; mean of daily minima, 41.87° ; mean temperature of the month, 48.82° ; lowest on the grass, 24° on the 22nd; highest in the sun, 114° on the 8th; mean temperature of the earth at 3 feet, 48.06° . Total sunshine, 119 hours 35 minutes; there was one sunless day.—W. W. DIVERS.

A Sunny October.—On only five days during the month have we had an entire absence of sunshine, with the result that instead of only seventy-eight hours of bright sunshine we have to record ninety-eight hours, and a deficit in rainfall of over an inch in the metropolis. Our share has doubtless been transferred to the West of Scotland, where the rainfall is largely in excess, or the North-east of England, whence reports come of heavy floods. At Stornoway the rainfall measured 8 inches for the month, and $7\frac{1}{2}$ inches at Blacksod Point, two of which fell on one day alone. The temperature during the month was rather above the mean, and rose to 75° on the 9th, the lowest reading in London being 35° . In Paris, between the 20th and 23rd, the thermometer fell to 32° . November brought with it a decrease of temperature, 44° being the mean for the month, while most stations show the sunshine records to be only half those of the previous month.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
October and November.										
Sunday.. 28	W.S.W.	deg. 42.5	deg. 40.8	deg. 55.6	deg. 34.5	ins. 0.20	deg. 46.5	deg. 51.7	deg. 53.9	deg. 24.7
Monday.. 29	W.	53.2	48.8	54.4	42.3	0.50	49.2	51.3	53.7	41.8
Tuesday 30	W.N.W.	47.7	47.2	58.1	45.8	0.08	49.2	51.5	55.5	42.1
Wed'sday 31	S.S.W.	57.9	56.8	64.7	47.5	0.03	50.3	51.7	53.5	40.0
Thursday 1	S.S.E.	56.9	56.1	61.7	51.5	0.03	51.9	52.0	53.2	42.3
Friday .. 2	N.W.	54.7	53.6	56.4	52.3	—	53.1	52.5	53.2	44.8
Saturday 3	N.E.	52.8	51.6	56.2	51.4	—	52.9	52.9	53.2	49.3
MEANS ..		52.2	50.7	58.2	46.5	Total 0.84	50.4	51.9	53.5	40.7

Wet, mild weather has prevailed during the past week, Wednesday and Thursday being exceptionally mild for the time of year. Rain fell on five days.

Royal Horticultural Society.

Drill Hall, November 6th.

THE exhibition at the Drill Hall on Tuesday was probably the finest that has been held when the dates have conflicted with those of the National Chrysanthemum Society. The Sherwood cup competition for fruit was the centre of attraction, but Orchids, Chrysanthemums, and general flowers were also well represented.

Fruit Committee.

Present: J. Cheal, Esq. (in the chair); with Messrs. H. Esling, G. Kelf, A. Dean, G. T. Miles, S. Mortimer, H. Markham, G. Woodward, C. Herrin, G. Wythes, H. Balderson, F. Q. Lane, G. Reynolds, W. H. Divers, and J. Smith.

Messrs. Dobbie & Co., Rothesay, showed a collection of Parsley: the plants were of splendid quality. Mr. Leach, gardener to the Duke of Northumberland, Albury, sent Cabbage Union Jack; and Mr. W. Bain, gardener to Sir Trevor Lawrence, Dorking, Cabbage de Brunswick. The number of single dishes of Apples, Pears, and Melons, with Peaches and Plums, was great, but we cannot give particulars of the whole of them. Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, staged eighty dishes of Apples, Pears, the former especially being of fine colour.

Messrs. J. Peed & Sons, Norwood, arranged a large collection of Apples, including some fine examples. Mr. E. Neal, The Gardens, Tilgate, Crawley, was represented by Pears, Apples, Plums, and Grapes in variety, but there was nothing of conspicuous merit. Messrs. Lane and Sons sent from Berkhamstead handsome fruits of Apple Lane's Prince Albert.

Sherwood Cup Competition.

There were four competitors for this trophy, and it was handsomely won by Mr. G. Woodward, gardener to Roger Leigh, Esq., Barham Court, Maidstone, who staged in his usual excellent style. All the fruits were grandly coloured. Mr. A. J. Thomas, Sittingbourne, was second, and showed in most creditable condition. Mr. W. H. Bacon, gardener to Sir Marcus Samuel, Mote Park, Maidstone, and Mr. W. E. Humphreys, gardener to A. H. Smee, Esq., were placed equal third.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); Messrs. O. Thomas, C. T. Drury, H. B. May, J. Fitt, G. Nicholson, G. Gordon, C. R. Fielder, W. Bain, C. E. Pearson, C. E. Shea, H. J. Jones, H. J. Cutbush, E. H. Perkins, H. Turner, G. Paul, E. T. Cook, J. Walker, J. Jennings, and J. Hudson.

Messrs. J. Veitch & Sons, Ltd., Chelsea, arranged a most imposing semicircular group of Chrysanthemums, comprising well grown plants carrying fully developed flowers of excellent form, colour, and freshness. Some of the most conspicuous were Hairy Wonder, Edith Tabor, Miss Alice Byron, Mrs. H. Weeks, Mrs. Barkley, Louise, Annie Prevost, Mr. T. Carrington, G. C. Schwabe, Pride of Madford, Madame Rosette, Mrs. Mease, Hon. W. F. D. Smith, Sir Herbert Kitchen, Lionel Humphreys, Miss Maud Douglas, and Mons. Louis Remy. The same firm contributed also a grand display of the winter flowering Begonia Mrs. Heal, a collection of hybrid Streptocarpus, and a box of hybrid Rhododendrons. Mr. J. Smith, gardener to Earl de Grey, Kingston-on-Thames, sent well flowered plants of Begonia Gloire de Lorraine and Spiræa japonica. Messrs. J. Waterer & Sons, Ltd., Bagshot, were represented by a most interesting group of Conifers, comprising specimens of some of the leading kinds. H. J. Elwes, Esq., Collesbourne, Glos., arranged a small table of Nerines, including several varieties of the finest quality. Mr. Elwes has done most commendable work in the improvement of these charming flowers. Messrs. T. Cripps & Sons, Tunbridge Wells, sent Begonia Gloire de Lorraine and Browallia speciosa.

Begonia Mrs. Leopold de Rothschild was shown in superb condition by Mr. J. Hudson, V.M.H., gardener to Leopold de Rothschild, Esq., Acton. It is a larger flowering but equally floriferous form of B. Gloire de Lorraine. Mr. Hudson also included a few Nymphæas, and a basket of plants of Salvia splendens nana. The plants had been lifted from the open ground on November 5th. Messrs. Barr & Sons, Covent Garden, showed a small group of hardy flowers. Mr. W. J. Godfrey, Exmouth, sent some very fine Chrysanthemums, including Loveliness, Princess, Mrs. Barkley, Mons. Paul Terrett, Madame Von Andre, Mr. T. Carrington, Calvat 1899, and one or two others. Messrs. W. Wells & Co., Ltd, Earlswood, had four boxes of Chrysanthemums, including fine flowers of Lord Ludlow, Mahogany, Rev. W. Wilks, C. J. Salter, Matthew Smith, Madame Von Andre, Mr. R. Church, Sir W. J. Clark, Guy Hamilton, Silver Queen, and some promising seedlings. Mr. G. Kelf, gardener to Miss Adamson, South Villa, Regent's Park, contributed some excellent Celosias with cut Chrysanthemums on each side. The latter were not particularly large, but rich in colour, refined in type, and most creditable for London grown flowers.

The Japanese Chrysanthemums shown by Mr. F. C. Fowle, Devon Chrysanthemum Nursery, Teignmouth, were of excellent quality. A few of the best were Phœbus, Western King, Australie, Australian Gold, Mrs. Mease, Hon. W. F. D. Smith, President Nonin, Le Grand Dragon, Miss Nellie Pockett, Madame Carnot, Miss Alice Byron, and Mrs. J. Lewis. Messrs. Paul & Son, Cheshunt, sent pot Roses, including well flowered plants of Sunrise, Liberty, Shandon, Madame Abel Chatenay, The Bride, Lady Battersea, Sunset, Bridesmaid, and others.

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); and Messrs. J. O. Brien, A. H. Smee, J. Colman, W. Cobb, A. Hislop, J. Jaques, E. Hill, H. A. Tracy, T. Rochford, W. H. White, J. W. Potter, W. H. Young, H. J. Chapman, H. Little, N. C. Cookson, H. Ballantine, H. M. Pollett, and de B. Crawhsay.

Mr. W. H. White, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, staged some handsome Orchids, including Habenaria militaris, Vanda Sanderiana, V. Kimballiana, several Cypripediums, Cattleya Bowringiana lilacina, and several others. Messrs. J. Veitch and Sons arranged a small collection in which Cattleyas, Oncidium, and Cypripediums were most conspicuous. The plants were well grown and effectively staged. Mr. W. P. Bound, gardener to J. Colman, Esq., Reigate, showed Lælia præstans Gatton Park variety, Zygopetalum Mackayi, and several others.

Mr. J. Hudson exhibited cut blooms of Cattleyas, including several excellent forms. Messrs. F. Sander & Co. showed a small group of Cypripediums and others. Messrs. H. Low & Co., Bush Hill Park, staged Oncidium, Cattleyas, Odontoglossums, Miltonias, and Lælias in excellent variety. Amongst others who staged small exhibits were Messrs. W. H. Young, A. J. Keeling, Went, J. Davis, Charlesworth & Co., E. Kromer, J. Douglas, J. Hamilton, and J. Hooker, Uxbridge.

Medals.

FRUIT COMMITTEE.—Silver-gilt Knightian medals to Messrs. Neal and W. H. Divers, and a silver Banksian medal to Messrs. J. Peed and Son. FLORAL COMMITTEE.—Silver Flora medals to Messrs. J. Veitch and Sons (Begonias, &c.), G. Kelf, and Paul & Sons; silver Banksian medals to Messrs. J. Hudson, J. Waterer & Son, Ltd., J. Veitch & Sons (Chrysanthemums), T. Cripps & Sons, and Earl de Grey. ORCHID COMMITTEE.—Silver-gilt Flora medal to Messrs. J. Veitch & Sons; silver Flora medal to Mr. W. H. White, and a silver Banksian medal to Messrs. H. Low & Co.

Certificates and Awards of Merit.

Carnation America (Paul & Son).—This is of the tree section; the colour is rich salmon rose (award of merit).

Carnation Mrs. T. W. Lawson (H. Low & Co.).—This is the great American variety. The colour is very rich rose, and the petals are too much serrated for English growers (award of merit).

Carnation Mrs. Welbore E. Ellis (W. E. Ellis).—A fragrant variety with very serrated petals; colour very dark crimson (award of merit).

Chrysanthemum C. J. Salter (W. Wells & Co.).—A most charming variety after the type of Miss Nellie Pockett. The colour is soft yellow (award of merit).

Chrysanthemum Glorious (W. Wells & Co.).—A deep velvety crimson variety that will be valuable for cutting (award of merit).

Chrysanthemum Khaki (W. Wells & Co.).—A fine variety after the style of Mons. Chenon de Léché. The colour is reddish buff with a dark yellow reverse (award of merit).

Chrysanthemum Lady Esther (H. Perkins).—A handsome incurved Japanese; the colour is creamy white (award of merit).

Chrysanthemum Lizzie Adcock.—A very rich yellow sport from Source d'Or (award of merit).

Chrysanthemum Lord Ludlow (W. Wells & Co.).—A handsome incurving rich yellow variety; the florets have lines of crimson (award of merit).

Chrysanthemum Loveliness (W. J. Godfrey).—A splendid incurved Japanese with broad twisted florets; the colour is soft yellow (award of merit).

Chrysanthemum Madame Von André (W. Wells & Co. and W. J. Godfrey).—A charming soft yellow that is well known (award of merit).

Chrysanthemum Matthew Smith (W. Wells & Co.).—An immense flower. The inner colour is dull red, and the outer gold (award of merit).

Chrysanthemum Miss Florence Southam (A. W. Tanner).—An incurved; the colour is pale yellow with purple stripes (award of merit).

Chrysanthemum Wallace E. Vouden (W. J. Godfrey).—A promising incurved variety. The inner colour is dull rose and the outer pale buff (award of merit).

Chrysanthemum W. R. Church (W. Wells & Co.).—A handsome reflexed variety. The colour is dull crimson with yellow at the tips of the florets (award of merit).

Cypripedium Dora Crawshaw (Charlesworth & Co.).—This is from a cross between C. bellatulum and C. Charlesworthi mosaicum. The dorsal sepal is rich purple rose with deeper venations. The petals are deep claret on the upper half, and lighter on the lower; the pouch is claret and white (first-class certificate).

Masdevallia Bocking Hybrid (W. H. White).—This is from a cross between M. Veitchiana and M. cucullata. The colour is deep orange red (award of merit).

Melon Late Perfection (A. Pettigrew).—A large variety. The flesh is green, thick, and of good flavour (award of merit).

Nerine Lady Louisa Longley (H. J. Elwes).—A lovely flesh pink variety of large size (award of merit).

Pear Doyenné du Comice (W. Bain).—This Pear is so well known that a description is superfluous (award of merit).

Rose Liberty (Paul & Son).—This is a very rich deep crimson variety that is particularly attractive in the bud (award of merit).

Zygocolum Veitchi Kromeri (G. Kromer).—This is a very handsome form (award of merit).



Best Cactus Dahlias.

I CANNOT agree with "H. S." in his notes on my "Best Cactus Dahlias," page 328, when he says he is not in favour of Viscountess Sherbrook, as it is not free flowering. I took my twelve best from an exhibition standpoint, and Viscountess Sherbrook with us must still be included in our best dozen. As for Radiance, we consider its habit entirely spoils it, as the flower stem is very soft and makes no attempt to hold up the blooms, although it is long enough for two. I did not include Emperor, as it is too coarse for an exhibition Cactus, but the colour is no doubt wanted. Much might be said on "H. S.'s" remarks on certificates, but probably the Grapes are sour in this case.—F. C. C.

Retarded Bulbs.

THE great advantage of the system of retarding the roots of various hardy plants has been frequently pointed out in the pages of the *Journal of Horticulture*, and it is the fault of its readers if they have not grasped its importance. A very striking instance of it was to be seen in Mr. T. Rochford's really remarkable group at the Drill Hall on October 23rd: a grand collection of plants that would be quite impossible to produce at this time of year without the aid of refrigerating machinery. It is wonderful how these retarded plants start when introduced to a gentle warmth, and of course by a little experimenting it is quite easy to have any of these plants in full flower and foliage at any specified time of the year. This is indeed a boon to gardeners who have to cater for their employers' tastes by producing flowers in given quantities on certain dates. They have only to order a little in advance and pay a slightly higher price, the latter being well repaid by the superior quality of the produce. Mr. Rochford's exhibit richly deserved the Banksian medal awarded it, and he is to be complimented upon bringing the merits of this system into prominence.—H. R. RICHARDS.

Asparagus Fungus.

SEEING the report of Dr. W. G. Smith on Asparagus fungus on page 358 of the *Journal*, I venture to make a few remarks on the subject, our Asparagus being infested with the same pest, which is to me a new experience. The fungus has been most destructive on young plants in beds made three or four years ago, the foliage dying off a month or six weeks before the proper time, the stalks decaying right down to the roots, while plants in older beds have not suffered nearly so much, the latter being made on sloping ground, while the former are on the level. These seem to have been well made in the first instance, the soil being worked three spits deep, and plenty of manure and leaf soil added, but with no attempt at drainage. The subsoil is of a very close retentive character, and the fact of the plants on the level being affected more with the disease than those on sloping ground seems to point to want of drainage as being the primary cause of the pest. The soil is also deficient in lime, judging from the luxuriant way in which Rhododendrons and similar plants thrive in it, and this no doubt would intensify the evil.—R. W. DEAN, *Wainsford, Hants.*

Women as Gardeners.

"A. D.'s" accusation (page 384) against the lady students at the Lady Warwick Hostel, Reading, can have only one interpretation—viz., that the practical instruction is a failure. I have not had the pleasure of visiting the hostel, but in "The Cable" for December 2nd, 1899, there is a view of the ladies at work, and the way they are holding the tools shows that the first lesson on that subject was neglected. My own experience of women in the garden is that they are quite as practical, methodical, and tidy as the majority of men, doing the work in which they have been instructed, and are capable of performing, with as much taste, tact, and intelligence.

Digging if properly performed is not the back-breaking business so many believe, but one of the healthiest occupations, and for bringing all the muscles of the body into play cricket cannot compare with it. Amongst the men with whom I have come into contact, not 10 per cent. handle the spade properly, let alone dig a piece of ground as it should be done. The saying, "A Russian can do anything with an axe," should be true in another sense, that anyone professing to be a gardener ought to be able to do anything with a spade.—A. D. C.

Mr. Mawley's Rose Analysis.

WE are greatly indebted to Mr. Mawley for the care with which he has prepared his Rose analysis for the present year. It is most interesting, and should prove a reliable guide in determining the best Roses for the early shows. But I hardly think it will prove as useful to those exhibitors who desire to prolong their Rose season. Bear in mind that the flowers from which this list is chiefly compiled are staged at the Metropolitan Show of the N.R.S., which is always held on the first Saturday in July.

A glance at the list will show at once that in it the early flowering varieties take the premier position. Some of the later blooming varieties, but nevertheless indispensable, occupy an inferior place on the list, and some have disappeared altogether. For instance, Horace Vernet and Charles Lefebvre are placed at 17 and 24, whilst Auguste Rigotard, Madame Victor Verdier, and Countess of Rosebery are not in it at all. Simply, I think, because Horace Vernet and Charles Lefebvre are rarely in perfection at the Crystal Palace Show, and are generally at their best on and after the third week in July. Again, Madame Victor Verdier did not open with us until the 10th of July, yet we exhibited it at seven shows. Countess of Rosebery gave its first flowers on the 17th of July, and we staged it four times. And although we had no really good flowers of Auguste Rigotard until about the middle of the month, yet we showed it seven times.

These Roses are too good to be rejected, especially if we wish to carry on the Rose season to the end of the month. They, and others of late flowering habit, would, I am sure, obtain a much higher position in the Rose analysis were Mr. Mawley to compile his list from Roses staged at the later exhibitions.—JOSEPH H. PEMBERTON.

Horticultural Club.

ON Tuesday evening the members of this association enjoyed the pleasure of listening to a paper read by Mr. Harry J. Veitch, embodying some of the impressions gathered by him during his recent visit to Nubia and the region of the Nile. It was entitled "Egyptian Plants," and set forth in a cursory manner the views of an eminent specialist upon the flora, agriculture, and horticulture of the land which, so far as we know, has been longest subject to the civilising influence of man. While giving many interesting facts indicating the extraordinary cultural possibilities of the soil under the influence of improved irrigation, and pointing to a bright future, Mr. Veitch thought that English floriculture and horticulture of to-day had nothing to learn from Egyptian methods in the past. The dominant feature of Egyptian vegetation was, said Mr. Veitch, the Date Palm, which he sighted before the lighthouses at Port Said, and continued to see all the way up the Nile as far as Nubia. Of it there are some twenty varieties.

After almost every known cereal, the Palms and their allies figured conspicuously in the list given by Mr. Veitch, but he remarked that the Conifere were not largely represented except by a few of the Australasian genera, and one could gather that acclimatisation has already done much to obscure the indigenous flora of this portion of Africa. All the fruits of the Mediterranean abounded, and also the flowers, but no specimens of ripe Bananas were to be seen just then, perhaps owing to its being the winter season. What struck most conspicuously on the eye were Roses, Poinsettia pulcherrima, Bougainvilleas, and Linum trigynum, which attains to the dimensions of a bush. The Orange, too, figured prominently as a hedge plant, and the Ricinus communis often reached a height of twenty feet.

After describing how Egypt enjoyed three seasons of growth in each year owing to the natural irrigation of the Nile inundation, supplemented by a crude native system, Mr. Veitch described their methods of manuring. The manure is obtained by the felahleen from flocks of pigeons or from the saltpetre dug out of the mounds of sand covering long buried towns, and which, it is estimated, will last for many more generations.

At Cairo there are three public gardens, including that of the Khedive, conducted on European principles, the one by the great reservoir being superintended by Mr. Walter Draper, of Kew; and in the fashionable suburb at Ramleh, at Alexandria, European villas, with gardens full of Roses, Carnations and Palms, on the European plan are quite numerous. In fine, the lesson taught by the address of Mr. Veitch was that the stimulating hand of the Anglo-Saxon now rests upon the moribund land of the Pharaohs, and is fast communicating to it a renewed life, which will develop its latent capacities to the full. As an earnest of this he instanced the canal constructed by M. Lesseps through the land of Goshen in 1858, which has enabled 12,000 persons to live upon a surface soil which would only maintain 4000 a century ago.

Mr. Shea in commenting upon the entertainment afforded by the lecturer, gave some very interesting facts in connection with Sicilian vegetation and agriculture, suggesting a curious resemblance between those of Sicily and of Egypt, and ultimately moved a vote of thanks, which was ably seconded by Mr. Arthur Pearson.



Forthcoming Shows.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the respective secretaries:—

- Nov. 9, 10.—ALTRINCHAM.—W. Hazlehurst, 40, Railway St., Altrincham.
 „ 9, 10.—ECCLES.—J. H. Bryan, 134, New Lane, Peel Green, Patricroft.
 „ 9, 10.—SHEFFIELD.—Wm. Housley, 28, Joshua Road, Sheffield.
 „ 13, 14.—BELFAST.—J. Macbride, Victoria Square, Belfast.
 „ 13, 14.—LEEDS.—W. Smith, The Gardens, Weetwood Hall, Leeds.
 „ 14.—EVESHAM.—Geo. Witts, Evesham.
 „ 14, 15.—HULL.—Edward Harland, Manor Street, Hull; Jas. Dixon, F.R.H.S., 2, County Buildings, Hull.
 „ 14, 15.—RUGBY.—William Bryant, 8, Barby Road, Rugby.
 „ 14, 15, 16.—YORK.—G. F. W. Oman, 38, Petergate, York.
 „ 15, 16.—PARKSTONE.—T. K. Ingram, Parkstone Nurseries, Dorset.
 „ 16, 17.—BOLTON.—Jas. Hicks, 1, Beckett Street, Bolton.
 „ 16, 17.—BRADFORD.—R. Eichel, Eldwick, Bingley.
 „ 16, 17.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.
 „ 16, 17.—MACCLESFIELD.—W. Oldham, 153, Gt. King St., Macclesfield.
 „ 21, 22.—BIRKENHEAD.—W. H. Yeo, 3, Clarendon St., Birkenhead.
 „ 22, 23.—LEAMINGTON.—Arthur J. Nichols, Leamington.

Lily Mountford.

We understand that the stock of this splendid Chrysanthemum, which since the English honours has gained the first-class certificate of the French National Chrysanthemum Society, will be distributed by Mr. Norman Davis, and not by Messrs. Wells & Co., as stated on page 400.

J. R. Upton.

THIS is one of the novelties that was not appreciated the first year it was distributed, but during the past two seasons it has come to the front with a bound. It received a first-class certificate from the National Chrysanthemum Society in December last, and the blooms then staged by Mr. R. Kenyon won golden opinions from all who saw them. It may be best described as a bright golden yellow of great substance; possibly one of the best yellows for exhibition purposes. The plant is a dwarf sturdy grower with a fine habit. It comes well on a late first crown, or if the plant is stopped in February the second crown bud is excellent in colour and size. On October 23rd Mr. W. J. Godfrey, Exmouth, exhibited some splendid flowers at the meeting of the Royal Horticultural Society, and the Floral Committee recommended an award of merit. We are indebted to Mr. Godfrey for the flower from which our slightly reduced illustration was prepared.

Growing Specimen Plants.

THE beautiful specimen plants which are to be seen at the leading exhibitions are the outcome of much care and attention throughout the season. Continuous and unremitting care is given, especially in the supplying of moisture and soluble food, also in stopping the plants to obtain a sufficient number of shoots, which are eventually to be trained to the desired shape to form the specimen.

There are two methods of producing specimen plants—viz., by cuttings and cutting back old plants. Cuttings must be rooted early in November, so as to give a long season of growth. For this purpose the best cuttings must be selected, stout sucker growths without flower buds in the centre. It is best to root them singly in small pots so as to avoid giving a check when moving. They root readily under a hand-light or in a closed frame. After roots are formed give the plants an airy and light position, a shelf close to the glass in a greenhouse being the most suitable. Here they will grow steadily and remain dwarf. When the pots are full of roots shift the plants to a size larger. The first stopping should be made when the growth is 4 inches high, just pinching out the tip. This stopping has the effect of causing side growths to start, which furnish additional shoots. Immediately these push, transfer the plants to 5 or 6-inch pots. Still

give them a light position in a steady growing temperature, and when the side shoots attain to the length of 4 inches take out their points.

It will be some considerable time, probably the end of February or early in March, when they are ready for the next shift, which may be into 7 or 8-inch pots. A larger proportion of loam should be used in mixing up the compost at this potting. Equal parts of loam, leaf soil, and sand are best in the early stages. A stronger compost consists of two parts of loam, one of leaf soil, and a little decomposed manure and wood ashes. Work this firmly round the ball. Greenhouse treatment on a shelf or stage under the roof should be continued during March. Afterwards find the plants a position in a deep frame or pit where they can stand on inverted pots, so that a circulation of air is insured about them, and the tops of the plants are within a reasonable distance of the glass as this prevents drawing. On every favourable occasion give air freely, avoiding cold draughts by admitting the air on the opposite side to that from which the wind comes. Give careful attention to water, especially just after potting.

The final shift may be made to 10-inch pots in the middle of May. The pots must be clean, dry, and well drained. Prepare the compost some time previously. This time for the final potting use three parts loam, one part sweet leaf soil, free from worms and insects. To this add one part of partly decomposed manure, and half a part of pounded lime scraps or old mortar. Broken oystershells are excellent. To every bushel of soil add a pound of bonemeal and a quart of soot. A quarter part of wood ashes and a similar quantity of coarse sand will complete the list of ingredients. All that remains is to mix the whole together and store in a dry place. Before using for potting, the compost, if dry, must be brought to a moist condition. The drainage in the pots must be covered with fibrous material gathered from the compost or prepared from fibrous turf. This also ought to be moist. Make the compost firm round the ball of roots. This is best effected by introducing the soil in layers, and ramming it firmly with a potting stick. Arrange the ball of roots in the pot so that the top is covered with fresh soil but yet enough room is left for watering.

After potting, stand the plants closely together in a sheltered position. Afford water carefully, and on fine days syringe freely. If the plants can have frame treatment a short time it will assist them to become established, but as soon as growth commences ventilate freely, gradually increasing the amount until full exposure is given. The summer quarters for the plants must be an open sunny spot, giving the plants abundance of room. The shoots will again want pinching as they become long enough, but cease doing this by the end of June.

Round-headed or globular training produces most effective specimens. A framework for training the growths upon must be arranged. Obtain a wire hoop 3 feet in diameter, and support this on two stakes crossing each other over the centre of pot. Also fix a central stake to each plant standing about 18 inches out of centre of pot. From the stout circular wire to this stake other wires may be arranged on which the shoots can be disposed at equal distances. Regulate and train the shoots again in September, arranging the points of shoots as evenly as possible. When this training is completed house the plants in a light, cool, well-ventilated structure. Feed carefully with weak but varied fertilisers from the time the buds show. About a month before the plants are expected to fully develop their blooms give the final tying, supporting each bloom with a light stake and allowing 6 inches above trellis. Some varieties may have more room. Rub out all bloom buds except one on each shoot. Light should reach the plants on all sides so that the blooms may be evenly developed. During the time the flowers are advancing maintain a gentle fire heat in dull, damp weather, as this materially assists them opening steadily.

The most popular varieties for forming specimens are the free blooming Japanese and reflexed varieties. Among the best are Vivian Morel, Lady Hanham, Col. W. B. Smith, Mrs. Mease, John Shrimpton, Phœbus, President Nonin, Elsie, Cullingfordi; and among Pompons, Cedo Nulli, Sœur Melaine, Madame Marthe, and Francis Boyce.—B. H.

South Wales and District.

HAVING had an opportunity of visiting several collections of Chrysanthemums lately, it may interest your readers to learn what the prospect is in the district. Battledown, Cheltenham, the residence of Col. Rogers, comes first on my list. Mr. Lusty, the gardener, gave me a very warm welcome. His plants are mostly timed for Cheltenham Show, which is later than the Welsh shows, and consequently his blooms were not quite so advanced as some of the others. Amongst the most promising in the Japanese section were Mrs. David Nicholl, a very good white; Madame P. Rivoire, Miss Alice Byron, another new white; Lionel Humphrey, a kindly looking bloom of Indian red; S. C. Probyn, Lord Kitchener, bronzy yellow; Mrs. Hugh Crawford, Mrs. W. Cursham, Mr. A. J. Miller, T. Carrington, very fine. Miss Edith Pilkington, Mons. Chenon de Léché, Mrs. W. Mease were most promising, as were Madame Carnot and G. J. Warren. J. E. Clayton, the yellow sport from Eva Knowles, as grown

at Battledown is a grand yellow, very intense in colour. Mrs. N. Foulkes, Madame G. Henri, grown in small pots and carrying single blooms, were very fine. Mr. Lusty grows a goodly quantity of incurved, which looked promising, but time prevented my taking notes of them.

Mr. Drake of Cardiff has, as usual, a fine collection of plants, most of them carrying show blooms, but the following struck me as being particularly promising:—Lady Phillips, very large and good colour; Australie, Mons. Hoste, good in substance and deep in colour; Mrs. Barkley, Vivian Morel and its sports, C. Davis and Lady Hanham were all in a very promising condition and can still hold their own; Le Grand Dragon, to use Mr. Drake's own words, has

was prominent on account of its fine crimson colour; Hy. Weeks is another good crimson; D. Seward, Pride of Madford, Mrs. W. Mease, Nellie Pocket, Mons. Chenon de Léché, and Mrs. W. Seward were all promising; Pride of Exmouth and Madame G. Henri can still hold their own, and Lord Ludlow is very distinct, and seems of good habit. Mr. Drake is what he is pleased to term experimenting with a few incurved, and the following appeared to more than justify the venture:—Globe d'Or, Miss D. Foster, Chrysanthemiste Bruant, very fine; Ada Owen, Mrs. H. J. Jones, Countess of Warwick, Rose Owen, Mrs. A. Hills, and Baron Hirsch.

The Heath, Cardiff, where R. A. Bowring, Esq., gives his gardener Mr. Joy a free hand, was the scene of my next visit. Here



FIG. 115.—CHRYSANTHEMUM J. R. UPTON.

come to stay. Mrs. A. H. Hall was very good, but it shows a great diversity of form according to which bud is taken, being much more incurved in some than others. Lady Ridgway, which seems to come good on any bud, was splendid. President Nonin, taken on an early bud, was pale in colour, but made up for that in size; Mons. L. Remy and T. Carrington were good.

Amongst the many good yellows Soleil d'Octobre stands out prominently, and seemed to me an indispensable variety. Madame G. Bruant promised to be a good back-row bloom, and Princess Bassaraba de Braucovan showed good substance of petal. Mrs. Coombes was splendid, and seems good everywhere. I saw a bloom that showed a tendency to sport white, which if it comes to pass should make growers fairly independent of the vagaries of Madame Carnot. Madame C. du Terraille is another of Calvat's many good ones; Madame G. de Brie is large, and a lovely shade of pink; H. J. Jones

Mrs. Coombes was in grand form both for colour and substance. Miss Alice Byron and Florence Molyneux were very good; Lady Phillips and Miss Edith Pilkington are more than useful novelties, and so is Jane Molyneux; François Pilau is a very promising yellow, also new. Emily Towers, Madame G. Bruant, Phœbus, Miss N. Pockett, M. Chenon de Léché, Elthorne Beauty, Eva Knowles, Mr. A. Barrett, T. Carrington, J. E. Clayton were all up to the standard. Mrs. W. Mease, G. J. Warren, and Madame Carnot deserve special mention. M. H. Martineau is somewhat after the style of E. Molyneux, and very dwarf habit. J. R. Upton and Soleil de Decembre promised well for later shows. Eucharis Lilies made a fine show in one of the houses, and Mr. Joy also showed me some splendid Cattleya gigas, one of which had a spike of five very fine blooms. I cannot quite make up my mind which was the best thing I saw at The Heath, but the late vinery cannot be far from top. Black Alicante, Gros Colman, Lady

Downe's, and Mrs. Pince were the varieties grown, and all very good indeed.

Breynton, Penarth, where A. T. Stephens, Esq., and his gardener, Mr. J. J. Graham, turned out some grand blooms last year, looked quite festive in honour of the autumn queen, and it would be hard to say whether master or man had the worse attack of the fever. The first thing that catches the eye on entering the greenhouse where the Mums are housed is a batch of Mrs. White Popham carrying enormous blooms, some of the largest I have ever seen. Le Grand Dragon, Lady Ridgway, Australie, Edith Tabor, Mrs. Barks, and Simplicity all stand out prominently; Miss Nellie Pockett, very fine; Emily Towers, Lord Ludlow, Lord Salisbury, very good colour; Madame G. Bruant, Mrs. Mease, grand; Silver Queen, a new pink variety of nice habit; Lady Hanham, V. Morel, and C. Davis, all good colour and deep blooms; Mons. Chenon de Léché, Mrs. G. W. Palmer, Madame G. Henri, and Mutual Friend all strike one as back row flowers. A charming plant of Miss Rose, smothered in pink blooms, is the pick of a good lot of single varieties grown in small pots, mostly 6 and 7 inch. Mr. Graham also showed me some good dwarf plants in 6-inch pots for grouping, nor must I omit to mention a frame full of splendid plants of Begonia Gloire de Lorraine in fine flower.

Mr. R. Crossling, Penarth Nurseries, has a fine house full of big blooms, which testify to Mr. J. Crossling's skill as a grower, and amongst a stock of heavy blooms the best were Lady Hanham, Simplicity, Nellie Pockett, Edith Tabor, Vivian Morel, lovely colour; Oceana, grand; N.C.S. Jubilee, E. Molyneux, Miss E. Teichmann, Mons. Hoste, Madame G. Henri, T. Carrington, and Phœbus, which last is the finest of the kind I have seen this year. The campaign opened on the 31st with Penarth Show.—A. H.

Battersea Park.

This south-western park is one of the most popular in the entire metropolis, and it is the one coming within the management of the London County Council which has, perhaps, the best reputation for the general excellence of its gardening. Mr. F. J. Coppin has been in charge so long, and has had such a wide experience of metropolitan gardening, that he is wholly conversant with the plants that will thrive and those that will not; hence the excellent results that are yearly achieved. For some years a collection of Chrysanthemums has been grown for the delectation of the public in the crowded district in which the park is situated, but it is found that persons travel considerable distances by rail, bus, tram, and even cab, to see the display in the frame ground near the Albert Suspension Bridge.

At the present moment the Chrysanthemums in Battersea Park are probably better than they have been in any previous season. Thanks to the exertions of Mr. J. Wheeler, the grower, the visitor finds robust plants, with splendid leaves and flowers of considerable size, that are particularly rich in colour considering the conditions under which they are produced. The total number of plants is between 2000 and 3000, and the best of these may now be seen in a comparatively narrow three-quarter span-roofed structure that is not half good enough for the splendid plants placed therein. But the presiding genius at Battersea does the very best that can be done under the circumstances, and trains beneath the roof glass at the back of the group any tall plants that are available, and places along the narrow facing stage small flowered Japanese and Pompons, which in their masses of flowers are superb. This system is carried out, too, over the two doorways, and so skilfully is it done that it adds very materially to the effect of the entire display.

The principal plants and varieties are in one large, undulating bank, falling in altitude from the back to the path. Along the front of the group have been tied out some of the small free-flowering sorts, so as to obscure to a great extent the pots in which the plants are growing and some of the stems that have lost their lower leaves. As has been said, the flowers are characterised by their size, cleanliness, and richness of colour. Varieties are numerous, and while it is obviously impossible to include all the most recent novelties, sufficient of the newer ones are represented to keep the stock fairly up to date in this respect. The leading flowers are conspicuously labelled, but here as elsewhere no harm would be done in doubling the number of names. It is probably limited to avoid too much repetition, but it frequently happens that a variety named at the entrance is overlooked and seen further on without a label; the visitor then has considerable difficulty in ascertaining the name, as with 5000 or 6000 people coming in a day the officials cannot permit anyone to rush to and fro in search of nomenclature.

Amongst the best Japanese varieties may be enumerated Edwin Molyneux, Mrs. S. C. Probin, N.C.S. Jubilee, Mons. Panckoucke, Emily Silsbury, G. H. Runchman, Lady Byron, one of the very finest; Mrs. Alpheus Hardy, Florence Davis, Mdlle. Edouard Rey, Australie, fine; Phœbus, President Bevan, Vivian Morel, Modesto, Master H. Tucker, Esau, very fine, hairy; Mrs. H. Weeks, excellent;

Chas. Davis, Hairy Wonder, and Col. W. B. Smith. The incurved section includes Lord Rosebery, Globe d'Or, C. H. Curtis, Jeanne d'Arc, Golden Empress, Baron Hirsch, Alfred Salter, Golden Beverley, Lords Alcester and Wolseley, and Prince of Wales. The smaller flowers used with such telling effect comprise Source d'Or, Margot, Snowdrop, Sœur Melaine, Sunset, L'Ile des Plaisirs, and several others.

Southwark Park.

It would not be an easy matter to find in London a district more unsuited to gardening than that which surrounds this south-eastern park, which is now in charge of Mr. Rogers. The district is packed with dwellings, factories, and shipping on its several sides, and is so much encircled that one wonders how those in charge are able to keep the ground in such excellent condition. Flower beds in the summer and early autumn months are remarkably gay, while some shrubs flourish admirably. These things simply go to prove what may be done under the most adverse circumstances where skill and intelligence are brought to bear from the time the plants are raised until they have finished their flowering.

Just now, of course, the *pièce de resistance* here, as elsewhere, is found in the Chrysanthemum house, which is one of the very best in any of the parks for the purpose. It is sufficiently wide to permit of a central bed with side beds throughout; hence a capital effect may be secured by a judicious blending of the colours. In one corner of the house the dimensions favour an imposing bank, and as this is not seen on entering the structure it comes as a pleasing surprise to all visitors. At Southwark we have, in short, what is required in all the parks, a house that lends itself to arrangements of an artistic nature, and were these provided it may be asserted that the number of visitors would be materially increased. This might not be apparent at this particular period, but at other seasons and with other flowers the interest would be constantly maintained. As it is, the entire display reflects the utmost credit on the County Council, the superintendent, and the grower, who is immediately responsible for the well-being of the plants.

The bulk of the collection is made up of the Japanese flowers, which it is clearly apparent are by far the most popular with the visiting public. Incurved are, however, fairly well represented; while small-flowered Japanese, Pompons, and one or two Anemones, especially Descartes, may be seen at intervals. The four best incurved at the time of my visit were Mons. R. Bahuant, Golden Beverley, Emily Dale, and Baron Hirsch. Each of these was carrying some finely developed flowers, though the date was still somewhat too early for complete development.

The Southwark Park collection has almost every season made a feature of the hairy varieties of the Japanese section. These have not, and probably never will have, the popularity of the ordinary Japanese, but they ought not to be excluded from a collection that aspires to be truly representative of the Eastern flower. Probably the finest of these this year are Louis Boehmer, Hairy Wonder, Mrs. Alpheus Hardy, Esau, *Enfant des Deux Mondes*, and *King of the Hirsutes*, all of which have produced flowers of characteristic form and colour. They have attained to good size, and the plants look particularly healthy.

A few of the choicest of the general collection are Wm. Tricker, Emily Silsbury, *Gloire du Rocher*, N.C.S. Jubilee, Mutual Friend, Le Grand Dragon, fine; R. Hooper Pearson, richest of yellows; Louise, Phœbus, Madame Gustave Henry, Prefet Robert, and Stanstead Surprise. There are, of course, dozens of others, and those readers of the *Journal of Horticulture* who are in the neighbourhood of the park would find much pleasure and benefit in an hour amongst the Chrysanthemums.—MONOCLE.

Autumn-sown Annuals.—Many of the hardy annuals for summer flowering do better if sown in the autumn, producing finer flowers, and being less affected by drought. The end of September is the best time to sow a good many, though some, such as Sweet Peas, are best sown a month later. Many things that will stand the winter on dry light soil will often fail to do so on wet heavy soil, and in the latter case they must be sown in small well-drained pots, with plenty of sand mixed with the soil, and kept in a cold frame during the winter, where they will not be affected so much by the dampness or by the slugs, two things which usually go together. In the spring the pots of plants can be turned out whole into the ground, or carefully cut in halves, when they will not feel the move at all. Of course the seedlings should be thinned out as soon as they are up, so that there are not more than half a dozen in a 60-sized pot. Among hardy annuals which are best sown now may be mentioned Cornflowers, Sweet Sultan, Love-in-a-Mist, *Bartonia aurea*, *Collinsia*, *Eschscholtzias*, Larkspurs, Scabious, Linaria, and others.

The Greenhouse in Winter.

(Concluded from page 408.)

JANUARY will inherit many of the December flowers. If I enlarged somewhat on the Christmas supply it was because at this season of friendly greetings more was desirable. Nothing seems more beautiful than to associate our gatherings with flowers. Cinerarias must now be introduced. These of late have been much improved in habit, variety, and quality of bloom. Self colours come true from seed, and the bicolors are always bright and charming. Cineraria stellata is tall and graceful, and well worth a place, bearing the same relation to the other Cinerarias as Primula stellata does to Primulas. Tulips and Hyacinths of greater variety will be coming in. The novel and lovely colours of Azalea mollis and the Ghent varieties can now be forced, and I would specially mention A. altaclarensis of a beautiful golden colour. These shades are always much appreciated. Among Daffodils the Tenby, Golden Spur, and Stella are among the earliest. Cytisus of sorts, Lilacs, Spiræa japonica, and other kinds, especially the shrubby Spiræa confusa, one of the neatest and most charming of all white flowering shrubs for forcing; Staphylea colchica, Deutzias of sorts will be quite sufficient to keep January gay.

February, with its longer and brighter days giving us a taste of spring, will have ample variety with its succession of bulbs, including Lachenalias, so useful in hanging baskets and in pots for edging the stage; L. Nelsoni is a rich golden, much brighter than L. tricolor, but more scarce. Solomon's Seal and Dielytra spectabilis will be useful. The beautiful varieties of Narcissus Polyanthus, including the Chinese Sacred Lily, sometimes grown among stones in water, are great favourites. Several other varieties succeed equally well under the water treatment. Many of the flowering shrubs come into bloom more kindly now. In addition to those already mentioned I would include Viburnum opulus (Guelder Rose), V. plicatum, Hydrangea paniculata grandiflora, and the pure white variety Dr. Hogg; Rhododendrons of sorts, always including Cunningham's White; several kinds of Prunus, Magnolias, especially conspicua and the dwarf early flowering M. stellata. The magnificent hybrid Amaryllis (Hippeastrum) may be taken to the warm greenhouse when in flower. Those standing well above the other plants always attract attention.

March will witness a greater development of all the flowering plants mentioned last month. Indian and other Azaleas will be in profusion; bulbs at their best; Bermuda Lilies, so pure and chaste, will be welcomed, but will be in greater request later on as the flower of the Easter festival. I cannot omit Clivia (Imantophyllum) miniatum and its splendid varieties. There are few plants that light up and brighten a house so much; the warmth of colour of the large umbels of flowers and the distinct dark green strap-shaped leaves make it one of the most telling plants of its season. Tea Roses, which have up to now been most in evidence, will give place to H.P. Roses, which cannot fail to be appreciated. Several New Holland plants will be flowering, Acacias of sorts, Chorizemas, Correas, Boronias, spring-flowering Ericas, the showy early flowering Pelargoniums, Himalayan Rhododendrons, nice pots of Mignonette, and Violets. Chorizema cordatum splendens (fig. 116) is one of the most attractive varieties and flowers over a very long period. March is a glorious month in the greenhouse. At its close, and as flowers begin to open more and more out of doors as

the season gets on, less interest and attention will, as a matter of course, be centred in those under glass.

Up to the present I have said nothing about Orchids, having purposely left them out, so as to mention them specially. Many people are somewhat afraid of Orchids. I can safely say, with careful attention and with a few plants of each kind I am about to mention, they may be had in bloom during the whole six months I have gone through, and about in the order I shall put them:—Cypripedium insigne, Lycaste Skinneri, Odontoglossum crispum, and O. grande, Coelogyne cristata, Ada aurantiaca, and Dendrobium nobile. These are all of easy culture. I would not dissuade anyone from trying more of the cooler Orchids, but should anticipate for them a great amount of success.

Climbing plants I have not alluded to, as they interfere more or less with the light during this period. There is one plant, however, that might be introduced with good effect on the rafters, which from its habit of growth would not materially diminish the light; it is Tropæolum Ball of Fire. This would flower during the whole period and add immensely in keeping the house gay. The brilliant scarlet flowers can hardly be equalled for intensity of colour, and it would take off somewhat from the stiffness of the roof. There is no other climber of so light and elegant a character that blooms so continuously through the winter. It should not be tied in too much, but allowed a fair amount of natural freedom of growth.

In finishing, I would say that Palms, Ferns, and other suitable foliage plants should be associated with the flowering plants as may be necessary; good taste and experience will be the best guides in the selection, proportion, and general use of these indispensable plants.—SEMPERFLORENS.



FIG. 116.—CHORIZEMA CORDATUM SPLENDENS.

Autumn-sown Sweet Peas

ALL who once grow autumn-sown Sweet Peas successfully discard spring sowings, unless the object is to have a succession. They grow much stronger, have finer blossoms, last in bloom longer, and by getting more firmly established in the soil are less liable to be dried up in hot weather. On heavy, wet soils, or where there are walls or other harbourage for snails and slugs and other pests, it is not much good sowing them in the open ground at this season.

The plan I have adopted for many years is to sow them in 48-sized pots, eight or ten peas in a pot, about the first week in November, and then put them in a cold frame, and water them when they are very dry, which is not often if the frame is left wide open in mild weather. By the middle of March they will be 2 to 4 inches high, and the pots of peas should then be turned out whole into well-prepared soil. They like deeply-dug ground well manured. They can thus get plenty of root run, which will enable them to withstand a considerable amount of drought.

If planted out about the middle of March they should be in bloom the early part of June, and if the pods are picked off every few days they may last six or eight weeks, unless the heat is very great, though even this may be greatly counteracted by a liberal application of liquid manure in addition to a mulching round the roots, as they are hungry and thirsty plants. It should not be forgotten that Sweet Peas grown in this way will want taller sticks than spring-sown ones.—ALGER PETTS.

Horticultural Shows.

Westminster, November 6th, 7th, and 8th.

THE National Chrysanthemum Society held their great show, as usual, at the Royal Aquarium, and it was worthy of the name, for the huge building was crowded throughout. The chief interest was centered in the great vase class and the President's prizes. The arrangement of the show was not quite of a satisfactory character, for the classes did not follow each other, and were difficult to find. Apart from this the show was well carried out by the superintendent, Mr. R. Dean. The French visitors also gave additional interest to the gathering.

Cut Blooms.

The national competition of Chrysanthemum and horticultural societies always creates a considerable amount of interest, and the competition is almost invariably keen; the executive was not disappointed on this occasion, for there were three societies represented. Each society collectively has to stage forty-eight Japanese and twenty-four incurved blooms, distinct, for the challenge trophy and £10 added for the first prize, while £6 and £4 represent the value of the second and third prizes respectively. The Portsmouth and District Society proved the victors with a good strong board in both sections. The Japanese were Yellow Carnot, Madame Carnot, E. Molyneux, Mons. Hoste, Madame Gustave Henry, Mark Gill, Mrs. Mease, and Florence Molyneux in the back row; in the middle were Vivian Morel, Chas. Davis, Mrs. J. Parker, Harold Pink, Mons. Chenon de Léché, Miss E. Weller, Soleil d'Octobre, and Australie; while the front row varieties were General Buller, Mrs. R. Jones, Mrs. Fulljames, Miss Kennedy, Mrs. G. Carpenter, Phœbus, Lady Hanham, and Nellie Pockett. The incurved varieties were large and well finished. The varieties employed were Madame Ferlat, Hanwell Glory, Nellie Threlfall, a grand flower; Ernest Cannell, Mrs. H. J. Jones, Mervyn Penford, Duchess of Fife, Lady Isobel, Dorothy Foster, Fred Palmer, Le Marchedon, Triomphe d'Ève, Emile Nonin, Ma Perfection, Lord Wolseley, C. H. Curtis, Miss M. A. Haggis, Violet Palmer, Golden Gem, Princess of Wales, Mrs. R. C. Kingston, Lucy Kendall, Brookleigh Gem, and John Miles. The exhibitors were Mr. J. Agate and Mr. C. Penford. The second place was taken by the Winchester Horticultural Society, Mr. W. Neville, gardener to F. W. Flight, Esq., Twyford, staging. Some of the best blooms were Mrs. W. Mease, Edith Dashwood, Emily Towers, Sir H. Kitchener, Lady Hanham, E. Molyneux, Phœbus, and Mrs. Coombs in the Japanese section; while the best incurved were Mrs. R. C. Kingston, Mrs. H. J. Jones, Mrs. Coleman, Topaze Orientale, and Princess of Wales; while the Sevenoaks and West Kent Society were third, the exhibitor being Mr. W. Tebay, Sevenoaks.

The Holmes challenge cup class for thirty-six incurved blooms, with prizes of £10 with the cup for first place, and £7, £4, and £2 for the other prizes, always attracts numbers of competitors, and on this occasion the class was keenly contested, no less than six exhibitors staging. The first prize was handsomely won by Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Fetcham, who staged perhaps the finest collection ever shown at a national show. The varieties were—Back row: Chrysanthème Bruant, Ernest Cannell, Ma Perfection, Ralph Hatton, Mrs. G. Williams, grand; Lady Isobel, Madame Ferlat, Countess of Warwick, Chas. H. Curtis, Mrs. H. J. Jones, Hanwell Glory, and Duchess of Fife. Middle row: Lord Alcester, Madame Verneuil, Mrs. W. Howe, Topaze Orientale, Empress of India, Violet Foster, Globe d'Or, J. Agate, Ialene, Miss A. Hills, Yvonne Desblanc, and Robert Petfield. Front row: John Doughty, John Lambert, Pearl Palace, Princess of Wales, C. B. Whitnall, Golden Empress, Mrs. R. C. Kingston, George Haigh, Thos. Lockie, Alfred Salter, King of Yellows, and Bonnie Dundee. The second prize was awarded Mr. G. J. Hunt, gardener to P. Ralli, Esq., Epsom, who had Ialine, Lady Isobel, Creole, Duchess of Fife, Chrysanthème Bruant, Chas. H. Curtis, and Lord Alcester. Mr. W. Jinks, gardener to E. Bruce, Esq., The Beeches, Walton-on-Thames, was third, and Mr. J. H. Goodacre, gardener to the Earl of Harrington, fourth.

For the Holmes challenge cup and similar prizes in the class for forty-eight Japanese blooms, distinct, there was a grand array, not only of exhibitors, but blooms also, in fact the class made a grand show in themselves, for there were seven entries, the first prize going to Mr. F. S. Vallis, Bromham Fruit Farm, Chippenham, for a grand exhibit. The varieties were—Back row: Phœbus, Mrs. E. Barter, E. Molyneux, Soleil d'Octobre, Madame Carnot, Mrs. J. Bryant, grand; Simplicity, Mrs. W. Cursham, Mr. A. Barratt, Le Grand Dragon, a fine bloom; Mrs. J. Lewis, M. G. Bruant, Chas. Davis, Mrs. W. Popham, R. Hooper Pearson, and Australie. Middle row: Pride of Madford, Lord Ludlow, Nellie Pockett, Vivian Morel, Secrétaire Fierens, Madame P. Rivoire, Lady Hanham, Surpasse Amiral, Miss Alice Byron, Dora Heixheimer, Sir H. Kitchener, Calvat 1899, Mrs. Barkley, C. B. Haywood, Lord Salisbury, and Mrs. Mease. Front row: Pride of Exmouth, Edith Tabor, fine; Emily Towers, Madame Gustave Henry, Seedling, Mons. Chenon de Léché, Lady E. Clarke, Mrs. Vallis, Elthorne Beauty, Mrs. G. W. Palmer, Mutual Friend, Seedling, G. J. Warren, Mons. Hoste, Mr. L. Remy, and Mrs. Coombs. Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, was a splendid second; his best

varieties were J. R. Upton, Mrs. H. Weeks, Mrs. G. Carpenter, Mrs. Coombs, Mr. T. Carrington, Vivian Morel, Ella Curtis, R. Hooper Pearson, Mrs. Barkley, and Madame L. Remy. Mr. R. Kenyon, gardener to A. F. Hills, Esq., Monkham, Woodford Green, was third with good blooms of Vivian Morel, J. E. Clayton, N.C.S. Jubilee, Mrs. Mease, and Lionel Humphrey; and Mr. W. Jinks was fourth.

In the class for twenty-four blooms, Japanese, distinct, with five prizes, the competitors numbered nine, and made a grand display, the first prize going to Mr. J. W. Roberts, gardener to G. T. Skilbeck, Esq., Harrow Weald. The varieties were—Back row: Simplicity, Mr. T. Carrington, Mrs. W. Popham, Beauty of Adelaide, Florence Molyneux, Mrs. G. W. Palmer, Mrs. Barkley, a grand flower; and Mrs. Mease. Middle row: Le Grand Dragon, Vivian Morel, Thos. Wilkins, Mrs. Weeks, Lionel Humphreys, R. Hooper Pearson, Mons. Chenon de Léché, Madame Gustave Henry, Edwin Molyneux, and Lady Hanham. Front row: N.C.S. Jubilee, Mons. Ed. Andre, Phœbus, Madame P. Rivoire, Mrs. W. Seward, Le Grand Dragon, Elthorne Beauty, and Edith Tabor. Mr. W. Higgs was second with good typical blooms of Mrs. Mease, E. Molyneux, Vivian Morel, Edith Tabor, and Mrs. Barkley. Mr. W. C. Meredith, gardener to G. Wilder, Esq., Stanstead Park, Emsworth, was a good third, and Mr. F. King, gardener to A. F. Perkins, Esq., Holmwood, fourth.

The companion class for twenty incurved blooms, distinct, also secured six exhibitors. In most of the stands the quality was quite up to the average. Mr. W. Higgs proved the victor with a grand set. The varieties were—Back row: Hanwell Glory, grand; Madame Ferlat, Mrs. H. J. Jones, Chas. H. Curtis, fine; Lady Isobel, Countess of Warwick, Duchess of Fife, Chrysanthème Bruant. Middle row: Yvonne Desblanc, Robert Petfield, Topaze Orientale, Globe d'Or, Ialene, Mrs. G. Williams, Violet Foster, and Ma Perfection. Front row: Madame Verneuil, Lord Alcester, Mr. Bennett, Thos. Lockie, Pearl Palace, Henry Ellis, Mrs. R. C. Kingston, and John Doughty. Mr. G. J. Hunt was a capital second, his best flowers being Mrs. H. J. Jones, Duchess of Fife, Ialene, Bonnie Dundee, Hanwell Glory, and Lord Alcester. Mr. W. Mease occupied third place, and Mr. Silas Cole fourth.

A class for twelve incurved blooms, distinct, with a valuable marble clock as the first prize, netted an entry of nine. Mr. A. Sturt, gardener to N. S. Cohers, Esq., Englefield Green, secured the premier award with a strong exhibit, the varieties being Duchess of Fife, Topaze Orientale, Mrs. H. J. Jones, Chas. H. Curtis, Golden Empress, Hanwell Glory, Ma Perfection, Lucy Kendall, George Haigh, Princess of Wales, Miss V. Foster, and Ernest Cannell. Mr. W. C. Meredith came second with good flowers of Madame Ferlat, Duchess of Fife, and Lady Isobel; and Mr. L. Bastin, gardener to A. Henderson, Esq., Faringdon, Berks, was third.

In a class for twelve blooms, Japanese, distinct, the trade excluded, there was a capital competition. Mr. J. Sandford, gardener to Wright Ingle, Esq., Wood House, North Finchley, was first. The best flowers were N.C.S. Jubilee, C. F. Payne, Mrs. H. Weeks, R. H. Pearson, A. Gold, and Eva Knowles. The second prize going to Mr. A. Allen, gardener to Lord Suffield, Gunton Park, Norwich, and Mr. E. Coleman, gardener to F. L. Boyd, Esq., North Frith, Tonbridge, was third. There were ten exhibitors.

The class for six blooms incurved, one variety only, proved a most attractive one, for there were eight good entries. Mr. J. B. Hankey won first place with grand blooms of Duchess of Fife. Mr. G. H. Hunt was second with the same variety. Mr. C. Penford, gardener to Sir F. Fitzwygram, Leigh Park, Havant, third, with the same variety; and Mr. W. Perry, Bagshot, brought up the rear with Chas. H. Curtis.

An interesting class was that provided for a table of cut flowers to illustrate the different types of form, colour and size; the tables were 6 feet by 3 feet, any suitable foliage being allowed, but strange to relate Mr. N. Davis was the only exhibitor, and received the first prize. The exhibit included all sections of the flower, but hardly came up to the ideal of the schedule.

The first class for six Japanese blooms, one variety, was devoted to the whites, no less than five boards being staged. Mr. W. Higgs was first with grand blooms of Madame Carnot. Mr. W. C. Meredith was second with Madame Gustave Henry in fine form, and Mr. W. L. Bastin third with Madame Carnot. In a similar class for yellow varieties there were three entries, and Mr. F. King was placed first with good blooms of Mrs. Mease, and Mr. W. Higgs followed with grand samples of Phœbus, while Mr. W. L. Bastin brought up the rear with Mrs. Mease. For six blooms any other colour, one variety, there were seven competitors, Mr. W. Higgs leading with superb blooms of Australie. Mr. W. C. Meredith was second with Mons. Chenon de Léché, Mr. N. Davis being third with well coloured Mrs. Barkley. The class for six blooms Japanese, incurved, one variety only, was attractive, though there was but one entry, from Mr. R. Kenyon, who staged N.C.S. Jubilee, Nellie Pockett, President Nonin, Wonderful, Madame Desblanc, and R. Powell, and received the first prize.

The hairy-petalled varieties were provided with a class for six blooms, not less than two varieties. Mr. H. Love, 1, Melville Terrace, Sandown, Isle of Wight, who had Beauty of Truro, Hairy Wonder, Mrs. Dr. Ward, and Louis Boehmer in good style, being placed first, and Mr. T. Foster, gardener to R. Nivison, Esq., Hendon, was second with good blooms of Hairy Wonder. The reflexed section was only represented by one class of twelve blooms, not less than nine varieties.

Here there were five entries. The first prize was awarded to Mr. T. Caryer, gardener to A. G. Meissner, Esq., Weybridge, who staged well Cloth of Gold, Pink Christine, King of Crimson, Phidias, Cullingfordi, Mrs. Forsyth, Miss F. Lunn, Golden Christine, and Peach Christine. Mr. G. W. Forbes, gardener to Madam Nicols, Surbiton, was a nice second, and Mr. J. Maule third.

A pretty class was that devoted to the Anemone varieties, in which the Japanese sub-section were included. There were five entries in this class, the first place being awarded to Mr. W. Ring, gardener to J. Warren, Esq., Capel House, Waltham Cross, who had a grand exhibit. The varieties were Mr. H. Gardiner, Robert Burns, Nelson, Mdle. Cabrol, Le Chalonais, Sir Walter Raleigh, John Bunyan, Empress, Mdle. M. Brunn, M. Dupanloup, Delaware, Enterprise, Madame R. Owen, Gladys Spalding, Rouche d'Abondance, W. W. Astor, Grand Alveole, Queen Elizabeth, Junon, Mrs. P. R. Dunn, M. C. Lebocqz, Mrs. Judge Benedict, J. Thorpe, jun., and Rouche Toulousaine. Mr. J. Jinks was second; and Mr. A. Ives, gardener to E. C. Jnkes, Esq., Barnet, third.

For twelve Anemone blooms of the old type there were three contestants. Mr. A. Ives was first with a good even stand, Mr. W. Ring following, and Mr. J. Maule brought up the rear. Twelve Japanese Anemones, distinct, caused four exhibitors to face the judges. Here Mr. W. Ring came out first with a good strong stand with good blooms of Mdle. Cabrol, Mr. H. Gardiner, Nelson, Sir W. Raleigh, and Robert Burns. Mr. A. Page, gardener to A. L. Reynolds, Esq., North Finchley, was second, and Mr. A. Ives third. The class for Anemone Pompons was for six bunches of six blooms each exhibited in vases, which made a pretty display. Mr. C. Brown, gardener to R. Henty, Esq., Abbots Langley, was first. Mr. T. L. Turk followed, and Mr. C. H. Chitty, gardener to L. Hardy, Esq., Highgate, was third. The class for nine bunches of Pompon varieties, six blooms in each bunch, Anemones excluded, brought out a capital entry, and Mr. A. Page won well with a collection that was unnamed. Mr. T. Caryer made an excellent second, and Mr. T. L. Turk, gardener to T. Boney, Esq., Highgate, was third with flowers of a coarser type.

For six varieties of single Chrysanthemums, in bunches of six blooms each, staged in vases, there were four collections staged. The first prize fell to Mr. W. Aldridge, gardener to G. Lacey, Esq., Palmer's Green, for a grand exhibit. Mr. G. W. Forbes made a capital second, and Mr. A. Page was third. The amateur class for eighteen Japanese blooms, distinct, proved a strong class with six entries, the first prize going to Mr. M. Silsbury, Shanklin, Isle of Wight, who staged a good even board. Mr. A. Knight, Ashford, Kent, was a good second, and Mr. W. G. Budden-Clark, Hitchin, third. The class for twelve Japanese varieties brought out a dozen entries. Mr. G. Heal, Guildford, was first with a fine exhibit; Mr. Wright, Finchley, was second, and Mr. M. Silsbury third.

Great Vase Class.

The great vase class instituted last year by Mr. H. J. Jones has lost none of the interest displayed in the class last year, and with the three substantial money prizes provided by the society, we had a great meeting of the giants. The vases are provided by the society, and are uniform in size and shape. There were nine entries, and as each exhibitor staged twelve vases of five blooms each, it will give some idea as to the impressiveness of the display. The victor proved to be Mr. F. Vallis, Bromham Fruit Farm, Chippenham, who staged twelve grand vases, quite eclipsing last year's display. The blooms were all veritable giants. The varieties employed were Mrs. J. Lewis, Mrs. Barkley, Mr. L. Reny, Mrs. Mease, E. Molyneux, Calvat 1899, Phœbus, Pride of Madford, Le Grand Dragon, Magnificent, Mons. Chenon de Léché, Australie, and Nellie Pockett. Mr. W. Mease was a capital second with Graphic, Nellie Pockett, Mrs. G. Carpenter, Phœbus, Eva Knowles, Mrs. Mease, Mrs. Barkley, Madeleine Davis, Madame Carnot, Mons. Chenon de Léché, Madame G. Debrie, and Mr. T. Carrington. Mr. W. C. Meredith came third with good examples of Mrs. Mease, Mons. Chenon de Léché, Madame Carnot, Oceana, Madame Gustave Henry, Australie, Mutual Friend, Mrs. G. W. Palmer, Lord Ludlow, Pride of Madford, Le Grand Dragon, and Mrs. Barkley. Mr. Silas Cole was fourth, and Mr. R. Kenyon fifth.

Plants and Groups.

The president's prize provided a unique class, which consisted of a floral display of Chrysanthemums and suitable foliage plants in pots arranged in the most attractive manner. Cut blooms could also be employed at the discretion of the exhibitors; each exhibitor was allowed half the space round the two large fountains, and a better position could not be chosen. There were five entries. Mr. Norman Davis, The Nurseries, Framfield, Sussex, secured the premier award with a fine decorative group, in which show flowers were exclusively employed. The large vases were filled with gigantic blooms of Mrs. Mease, Mrs. Coombs, and Phœbus; others were Mrs. Barkley, Vivian Morel, E. Molyneux, Lady Hanham, G. J. Warren, and R. Hooper Pearson. The foliage plants employed were most appropriate, and the specimen blooms of Madame Carnot in the foreground were magnificent. Mr. W. Howe, gardener to Mrs. Tate, Streatham, made a good second, though a rather formal arrangement was employed, but the foliage plants utilised made a light and pleasing effect. Some of the best flowers were Lady Hanham, R. Hooper Pearson, Australie, and Mrs. Mease. This exhibit must have run the winner hard. Mr. Percy Waterer,

Fawkham, was third, having some grand blooms of Mrs. Weeks, Mrs. Mease, and Lady Hanham, well arranged with suitable foliage plants, and Mr. E. Dove was fourth.

The class for six trained specimens large flowered varieties, including Japanese, brought out two collections. Mr. E. Easey was awarded premier honours for well-trained plants of Col. W. B. Smith, Miss Watson, Madame Carnot, John Shrimpton, Lady Hanham, and Phœbus; and Mr. F. E. Wright was second with good plants of John Shrimpton, Col. W. B. Smith, W. Tricker, and Alberic Lunden.

The smaller class for four specimens only had one entry, but the first prize was deservedly awarded to Mr. G. Whiteborne, who had grand plants of Mrs. Coombs, John Shrimpton, Col. W. B. Smith, and Vivian Morel.

For four trained standards, large flowering varieties, there were four entries, all of them good. Mr. E. Easey, gardener to F. Bishop, Esq., The Grange, Highbury New Park, who had grand plants of Lady Hanham, Wm. Tricker, Miss Watson, and Eva Knowles was first, Mr. G. Whiteborne, gardener to S. Nicholls, Esq., Forest Lodge, Walthamstow, second for good plants, and Mr. F. E. Wright, gardener to J. Troup, Esq., Essex Lodge, Upper Clapton, was third. The incurved section was provided with a class for a single specimen, the first prize being awarded to Mr. E. Easey for a large well-flowered specimen of Chas. H. Curtis.

Non-Competitive Groups.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, presented one of his well known groups of Chrysanthemums, with Palms, Ferns, and Crotons in relief. The arrangement consisted of a series of mounds with a back composed of plants in pots associated with beautiful foliage, carried at least 15 feet high, and making a most imposing display. Some of the best flowers were Mrs. Barkley, Miss Alice Byron, James Bidecove, Mrs. Greenfield, N.C.S. Jubilee, Australie, Lionel Humphrey, President Nonin, Lady Hanham, Edith Shrimpton, May Neville, Mrs. Mileham, and Mr. W. H. Webb. All these blooms were of exceptional quality. A beautiful collection of Violets were staged by Messrs. I. House & Son, Westbury-on-Trym. The bunches were large and fresh, some of the finest being La France, Princess of Wales, Victoria, Luxonne, Lady Hume Campbell, and St. Helena.

Messrs. G. Bunyard & Co., Maidstone, had a fine collection of fruit, comprising 150 dishes of Apples and Pears. Needless to say, all the varieties staged were well represented, the colour of the majority being remarkable. From Messrs. B. S. Williams & Son, Upper Holloway, came a large table of autumn-flowering plants, consisting chiefly of Ericas in fine condition, Palms, Ferns, Cyclamens, Orchids, and a large variety of other plants. Messrs. H. Cannell & Sons, Swanley, staged one of their magnificent displays of Zonal Pelargoniums, Chrysanthemums, and Cannas. The Pelargoniums were simply magnificent, a few of the most notable being Menelik, Duchess of Marlborough, Mrs. Ewing, Mrs. Chas. Pearson, The Sirdar, The Mikado, Winston Churchill, Mary Pelton, Hall Caine, Lord Reay, and Snowstorm. The Chrysanthemums were arranged in large vases, while the exhibit was flanked with two groups of Cannas.

Mr. R. Owen had a fine display of Chrysanthemums in pots, also a large number of seedlings on boards. Some of the best flowers were Lady Phillips, Sir H. H. Kitchener, Mrs. G. W. Palmer, Lord Boston, Madame Gustave Henry, Mrs. White Popham, and George Stanton. Some good suitable foliage was added throughout the exhibit which had a pleasing effect. Messrs. S. Spooner & Sons, Hounslow, exhibited a table of Apples which were typical specimens of good growth and development. Mr. Thos. Rochford, Turnford Hall Nurseries, had a beautiful display of retarded plants and bulbs in fine condition. The subjects employed were Lilium longiflorum, Spiræas compacta and japonica, Liliums lancifolium and rubrum. The Lily of the Valley, of which there was a considerable number, were superb, while the Azalea mollis gave a pleasing piece of colour to the exhibit. A very interesting exhibit.

A large exhibit came from Messrs. J. Laing & Sons, Forest Hill, which consisted of a good collection of fruit on the tables, also some good plants of Begonia Gloire de Lorraine, while bunches of Chrysanthemums were distributed throughout the exhibit. Mr. W. J. Godfrey, Exmouth, made a grand display of cut blooms, large flowers of Madame Carnot, Yellow Globe, C.I.V., Mrs. R. Lévy, Madame R. Cadbury, Lady Hanham, Mrs. W. Mease, Exmouth Gem, Golden Harvest, Calvat 1899, and Mr. L. Remy were notable, while large vases of specimen blooms gave a decorative effect to the exhibit; the plants and foliage added also enhanced the value of the exhibit.

A very pleasing exhibit was that from Messrs. Hobbies, Ltd., Dereham, who staged a fine collection of decorative varieties, some arranged in large mounds, while a large formal bank composed the background. Some of the most conspicuous were Harvest Home, White Quintus, Lizzie Adcock, Ambrose Thomas, General Hawkes, Crimson Source d'Or, Ryecroft Glory, and Miss Harvey. From Mr. J. Spink, Summit Road, Walthamstow, came a charming group of Chrysanthemums in pots, with Crotons and Ferns; the blooms were excellent throughout, and the plants well arranged. Mr. R. C. Pulling, Monkham Nurseries, Woodford, arranged a large group consisting of exhibition blooms with some grand Crotons and Ferns. Some of the best varieties were Lionel Humphreys, Lady Hanham, Mons. Chenon de Léché, Mr. L. Remy, Mutual Friend, and Miss Alice Byron.

Messrs. G. Boyes & Co., Aylestone Nurseries, Leicester, had a table of Carnations, both cut and growing in pots; they were very bright and fresh, a few of the best being General Gometz, Mrs. F. Joost, Helen Keller, and Shazada. Messrs. J. Peed & Son, West Norwood, occupied a large bay with a collection of Chrysanthemums in pots, most of them being up to exhibition form—a really fine exhibit.

From Mr. Robert Jameson, nurseryman, Sandymount, Dublin, came a table of floral designs, consisting of bouquets, wreaths, baskets, and other subjects, all of them well executed. Mr. J. Forbes, Hawick, had a pretty basket of his new Begonia Caledonia, the white variety of Gloire de Lorraine; the plants were covered with white blossoms. Messrs. J. Laing & Sons, Forest Hill, staged a beautiful group of Chrysanthemums in the gallery, which were well displayed with Ferns and other suitable foliage.

Messrs. W. Cutbush & Son, Highgate, had a large group of plants arranged tastefully in the gallery. The chief features were large clumps of Lily of the Valley, Lilium Harrissi, the new Carnation Mrs. Thos. Lawson, Spiræas, Ericas, with Palms, Chrysanthemums, and Ferns. Conifers were well represented by a large collection in the gallery staged by Messrs. B. S. Williams & Son, Upper Holloway. All were bright and well grown.

The horticultural trade sundriesmen and manure merchants were well represented. Those having good displays of their goods were the Permanent Nitrate Committee, Laws Chemical Manure Company, Mr. Jos. Arnold, Mr. H. Haws, Messrs. W. Wood & Sons, Ltd., D. Dowel and Son, Mr. J. George, Mr. J. Pinches.

Penarth, October 31st.

THE second annual show of the Penarth Chrysanthemum Society was held in the Drill Hall, Penarth, on the 31st October. In the absence of the president, Lord Windsor, R. Forrest, Esq., J.P., opened the show, which was a pronounced success.

In the class for twenty-four cut blooms, Japanese, distinct varieties, Mr. G. W. Drake secured the premier award and the president's challenge vase, value 20 guineas, staging a very even, fresh, and good coloured set. The varieties were Madame G. Bruant, Pride of Exmouth, Phœbus, Vivian Morel, Madame C. du Terrail, Lord Ludlow, T. Carrington, Lady Ridgway, Hy. Weeks, Nellie Pockett, Mons. Chenon de Léché, Le Grand Dragon, J. Bidencope, President Nenin, Mrs. Barkley, Mr. L. Remy, Chas. Davis, Princess B. de Brancovan, Pride of Madford, Lady Hanham, and Madame G. Henri. Mr. F. W. Vallis of Chippenham was second with a very heavy stand, but they lacked in freshness and colour. The following were most noticeable:—Phœbus (premier bloom), E. Molyneux, Mrs. J. Lewis, Soleil d'Octobre, M. Calvat, Australie, Mr. L. Remy, Mrs. Vallis, a new seedling; Lady Renshaw, Mons. Hoste, Le Grand Dragon, J. Molyneux, Madame Bruant, M. Chenon de Léché, Lord Salisbury, J. Bryant, and Mrs. Mease. Mr. A. T. Stephens, Penarth, was a close third; Colonel Rogers, Cheltenham, fourth, and Mr. R. A. Bowring, Cardiff, fifth.

Mr. R. Crossling, Penarth, gained the premier award for twelve blooms, Japanese, distinct, with good examples of Simplicity, Lady Hanham, Oceana, Nellie Pockett, V. Morel, Lady Ridgway, Madame G. Henry, Pride of Madford, Mrs. J. Lewis, Edith Tabor, N.C.S. Jubilee, and Phœbus. Mr. F. W. Vallis was second, Mr. G. W. Drake third, and Mr. J. C. Hanbury, Pontypool, fourth. There were five stands of incurved staged, and Mr. H. Pitt, Abergavenny, was first with Globe d'Or, M. Russell, Violet Foster, Topaz Orientale, Miss A. Hill, Yvonne Desblanc, Lady Isobel, E. Nonin, Hanwell Glory, Mrs. N. Molyneux, Le Marcadeon, Ami Hoste, Henry Ellis, Jeanne d'Arc, Mrs. J. Murray, Mrs. Heal, D. B. Crane, and Brookleigh Gem. Mr. J. C. Hanbury was second, and Mr. W. Brooks, Weston-super-Mare, third.

For the best arrangement of cut Chrysanthemums, occupying a space of 10 feet by 3 feet, Mr. Wm. Treseder, of Cardiff, gained the silver medal and first prize with a very effective display. He was very closely followed by Mr. R. Crossling. This class was a new feature, and quite justified its existence. For twelve Japanese, in not less than six varieties, Sir Thomas Morel, Penarth, was first, amongst his best were Mrs. Mease, T. Carrington, and Lady Hanham; second, Mr. H. Frazer, Penarth; third, Mr. H. A. Allen, Penarth. Colonel Rogers was first for twelve incurved, and Mr. S. A. Brain, Penarth, second. Six incurved Japs, new varieties of 1898 and 1899, Mr. A. T. Stevens was first with very heavy blooms; second, Mr. H. A. Allen.

Australie secured first prize for Mr. A. T. Stephen in the class for six Japs one variety; second, Mr. S. A. Brain, with Mad. Carnot; third, Mr. H. Frazer, with Mrs. W. Popham. Mr. Stephens was awarded first, and the seven-guinea challenge vase presented by Mr. S. A. Brain, Mayor of Cardiff, for eighteen Japs in six varieties, three of each kind, shown in vases with Ferns and ornamental foliage plants. Mr. H. A. Allen a good second. The class for twelve Japanese blooms arranged in a basket produced good competition, Mr. Stephens coming first with a grand dozen, most tastefully set up; second, Sir Thos. Morel; third, Mr. W. Tyson Martin, Penarth. For twelve Japanese in not less than six varieties open to those not employing a gardener, Mr. H. A. Allen was easily first, amongst them were three very heavy blooms of T. Carrington, one of which gained the Ryecroft medal for the best Japs in divisions 2 and 3; second, Mr. J. W. Whitrow, Newport; and third, Mr. E. Price, Taunton. Mr. W. Treseder gained first and challenge vase value 5 guineas presented by Messrs. Howell Bros.,

Penarth, for a good group of Chrysanthemums and ornamental foliage plants, Mr. R. Crossling was second. In the classes for 59-foot groups, there were three entries in each class, and competition was very keen.

For collection of fruit Mr. H. Pitt was first, and staged excellent Peaches and Muscat Grapes. Mr. H. St. V. Stuckey, Langport, was second. Mr. Pitt was again first for culinary Apples, followed by General Lee, Dinas Powis. Mr. J. S. Bachelor, Penarth, led in Pears with huge specimens of Uvedale's St. Germain, followed by General Lee. In class for black Grapes Mr. H. St. V. Stuckey led, followed by Mr. R. A. Bowring. In the class for white Grapes Mr. H. Cousins, Penarth, secured the first prize with huge specimens of Mr. Pearson.

The class for ladies' table decorations produced keen rivalry, and was much admired. The classes for wreaths, crosses, and bouquets produced a fine display and close competition between Mr. W. Treseder, Cardiff, Messrs. E. Parsons & Co., Swansea, and Mr. R. Crossling. The first-named just secured the gold medal.

Mr. W. Treseder, Cardiff, put up a charming stand of Cactus and other Dahlias, and was awarded a silver medal for same. Messrs. House & Son, Westbury-on-Trym, were awarded a bronze medal for a pretty exhibit of their giant Violets. If this show goes on increasing very much it will outgrow the hall, which was fairly full on the present occasion, and the committee are to be congratulated on the result of their efforts.

Portsmouth, October 31st, November 1st.

In the Engineers' Drill Hall the fourteenth annual autumn show was held, and was a success. Upon tables running down the centre of the hall were arranged the cut blooms, table plants, and fruit, while round the sides were the groups and specimen plants. Competition was brisk, and the exhibits displayed much quality. Mr. Berry, the courteous secretary, had everything in strict order, the arrangements being quite of the best. Fruits and vegetables were well shown.

The chief interest centred in the cut bloom classes, of which there were seventeen. The principal one was that for forty-eight blooms, half incurved and the remainder Japanese, in thirty-six varieties. Four competed, making a good display. After a close scrutiny the judges awarded the premier prize to Mr. G. J. Hunt, gardener to Pantia Ralli, Esq., Ashted Park, Epsom, whose blooms were conspicuous for their freshness and high quality. The incurved were especially neat and characteristic of the varieties here named:—Globe d'Or, deep in colour; Empress of India, Baron Hirsch, Yvonne Desblanc, Miss D. Foster, John Lambert, Chrysanthème Bruant, C. H. Curtis, rich; Alfred Salter, Duchess of Fife, Hanwell Glory, Empress of India, Lady Isobel, Violet Tomlin, grandly coloured; Princess of Wales, good; Miss M. A. Haggas, John Doughty, full; Queen of England, and King of the Yellows. Japanese: Mrs. W. Mease, good; Mr. A. Barrett, Phœbus, rich; Mr. T. Carrington, Edwin Molyneux, grand; Madame Carnot, Mrs. J. Beisant, Graphic, Mrs. J. W. Barks, Pride of Madford, Soleil d'Octobre, Madame Philippe Rivoire, Mutual Friend, Emily Towers, M. Louis Remy, Mons. Chenon de Léché, Lord Ludlow, and Mrs. Barkley. The second prize was awarded to Mr. G. Hall, gardener to Lady Louisa Ashburton, Melchet Court, Romsey, for very fine Japanese but rougher incurved. Mr. C. Penford, gardener to Sir F. Fitzwygram, Bart., Leigh Park, Havant, was a close third, and Mr. J. Agate, Brockhampton Nurseries, Havant, fourth.

A new class here was that for twelve distinct varieties of Japanese, three blooms of each, staged in vases, which made a pleasing display, adding variety to the show. Four competed, the best coming from Mr. Hunt. The varieties were M. Louis Remy, good; Madame Carnot, full; Mrs. James Beisant, Madame Marius Ricard, Mr. A. Barrett, Phœbus, extra fine; Mr. T. Carrington, Madame P. Rivoire, E. Molyneux, handsome; Mrs. W. Mease, Lady Hanham, and Pride of Madford. Mr. Penford was a good second, and Mr. J. Agate third.

The following four classes were confined to growers in Portsea Island only, and made a good display. For twenty-four Japanese six competed. Mr. W. G. Adams, 89, Clarendon Road, Southsea, was an easy first prize winner, staging medium-sized specimens. Mrs. Mease, Lord Ludlow, Madame Carnot, Nellie Pockett, Mutual Friend, and Vivian Morel were the best. The second place was secured by Mr. T. J. Lloyd, 46, Drayton Road, North End, and the third by Mr. C. White, 6, Garden Terrace, Southsea. For the same number of incurved Mr. Adams was again first with neat examples of popular varieties. Mr. White was a good second. For twelve Japanese five staged. Mr. F. Steptoe, gardener to T. Williams, Esq., Queen's Crescent, Southsea, won the first prize with a good set; Vivian Morel, Pride of Madford, Mrs. H. Weeks, and Mrs. Coombes were conspicuous. Mr. White was a close second. For twelve incurved the two preceding exhibitors changed places.

Amateurs made a capital display. In the class for twelve Japanese Mr. H. H. Lees, 54, Cedar Road, Southampton, was an easy first with handsome examples of Charles Davis, Pride of Madford, Vivian Morel, Phœbus, Lady Hanham, Mrs. Barks, Mutual Friend, Jane Molyneux, and James Bidencope. Mr. H. Courtrell, 32, Hampshire Street, Kingston, was second, and Mr. T. J. Lloyd third. Seven classes were set apart for the amateurs in Portsea Island, who acquitted themselves creditably. For twelve Japanese Mr. J. Nance, New Hampshire Street, Kingston, won with a good stand. Mr. H. Snook, 5, Fitzroy Street,

Fratton, was second and first for six Japanese, twelve incurved, and six Pompons staging most creditably.

Groups of Chrysanthemums were not numerous, but bright in appearance. Mr. E. Hawey, 63, Hanover Street, Portsea, secured the place of honour with well-grown examples, mainly of Japanese, not too crowded in the arrangement. Mr. W. Root, gardener to Messrs. Brickwood, Esplanade Hotel, Southsea, was second. Mr. W. Cheator, gardener to Sir W. Pink, Shrover Hall, Cosham, secured the leading place for a group of Chrysanthemums interspersed with foliage plants, occupying a space 60 square feet, with an arrangement that left little to be desired. Specimen Chrysanthemum plants were not numerous, but good in point of quality. For eight Mr. A. H. Newell, gardener to G. Scadden, Esq., Shearer Road, Buckland, secured the leading place. Mr. C. Wingate, 4, St. Stephens Road, Buckland, second; and who was first for six plants.

Kent County, November 1st and 2nd.

THIS show is held annually in the Rink adjacent to Blackheath station, and an admirable display is invariably brought together. Cut blooms of both the incurved and Japanese sections are always good, and the competition is usually keen. Groups both of Chrysanthemums and miscellaneous plants are a feature, as are non-competitive exhibits. Apples and Pears are finely shown in competition, as are also Grapes, but we cannot enter into particulars of those classes.

In the class for a group of Chrysanthemums arranged in a space of 50 feet Mr. A. W. Hollands, Lee Park Nursery, was first with an effective exhibit. The flowers were not large, but fresh, clean, and bright in colour. Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley Hall, was second with larger flowers that lacked brightness. Mr. G. Robins, gardener to A. Moore, Esq., Eltham Lodge, Eltham, was third. There were four exhibitors. Mr. J. Lyne was easily first for a group of miscellaneous plants with a most charming arrangement. Mr. J. T. Taylor, gardener to F. E. Liebrich, Esq., Log's Hill, Chislehurst, was second.

The chief cut bloom class was for thirty-six, distinct, eighteen each of incurved and Japanese. Three growers competed, of whom Mr. W. Tebay, gardener to Mrs. Ryecroft, Everlands, Sevenoaks, was placed first with a most creditable stand. The Japanese include Charles Davis, Mrs. C. Harman Payne, Emily Silsbury, Melano, Mrs. Coombs, Soleil d'Octobre, Vivian Morel, Phœbus, E. Molyneux, J. Bidencope, Mutual Friend, Mrs. G. W. Palmer, Mrs. A. H. Hall, Mrs. D. Dewar, Lady Ridgway, Edith Tabor, Robert Powell, and Mrs. White Popham. The incurved were Duchess of Fife, Ernest Cannell, Globe d'Or, Ada Owen, Chrysanthème Bruant, Lady Isobel, Major Bonaffon, Emile Nonin, Princess of Wales, Mons. Desblanc, Ideality, Jeanne d'Arc, Baron Hirsch, Brookleigh Gem, Violet Tomlin, Golden Nugget, Lord Wolseley, and G. Miles. Mr. C. Payne, gardener to C. J. Whittington, Esq., Elmhurst, Bickley, was second, but the flowers had neither the freshness nor the size of the first prize examples. Mr. E. Dove was third.

Mr. E. Dove was first for twenty-four Japanese, distinct, with a handsome exhibit, comprising Madame Carnot, Australie, Admiral, Mrs. Nutt, G. J. Warren, Melano, Vivian Morel, Mrs. Mease, Sec. Pierens, Mrs. H. Weeks, Eva Knowles, Madame G. Fleury, H. J. Jones, Lady Hanham, Mons. Chenon de Léché, E. Towers, Pride of Madford, Ed. Molyneux, Mermaid, Phœbus, Lady Crawshaw, Mr. A. Barrett, Mrs. Coombs, and Chas. Davis. Mr. C. Dann, gardener to R. J. Balston, Esq., Springfield, Maidstone, was second with small but brightly coloured flowers.

In the class for twelve Japanese, distinct, Mr. T. J. Taylor was first with Australie, Mrs. W. Mease, Etoile de Lyon, Phœbus, Soleil d'Octobre, Mrs. S. C. Probin, Mrs. G. W. Barks, Mrs. J. Lewis, Madame G. Bruant, Melano, Mons. Desblanc, and Mons. Chevon de Léché. This was a very fine box notwithstanding the fact that there were one or two decidedly weak flowers. Mr. J. Lyne was second with brightness of colour, but not sufficient size. Mr. C. Dann took third place.

There were three competitors in the class for twelve incurved, distinct, and Mr. J. E. Poole, gardener to A. J. Hubbuck, Esq., Elmstead Lodge, Chislehurst, secured the premier award. The varieties were Mrs. E. Bennett, Globe d'Or, Pearl Palace, Chrysanthème Bruant, C. H. Curtis, Queen of England, Mons. Desblanc, Topaz Orientale, Dorothy Foster, Thos. Singleton, Golden Nugget, and Prince Alfred. Mr. E. J. Booker, gardener to F. A. Pigeon, Esq., Dartford, was second, and Mr. J. Lyne third. Mr. J. E. Poole staged excellently in the class for twelve reflexes, and was adjudged the first prize. The best plants were Dorothy Gibson, Cloth of Gold, Chas. Tutt, King of Crimsons, and Amy Furze. Mr. E. J. Booker was first for twelve Pompons.

For six white Japanese, one variety, Mr. E. J. Booker was first with Mutual Friend. For six Japanese, any coloured variety, Mr. W. Tebay was first with Soleil d'Octobre, Mr. T. J. Taylor second with Phœbus, and Mr. J. Sainsbury, gardener to S. Cutler, Esq., Lewisham, third with G. W. Childs. For six incurved Mr. W. Tebay was first with Globe d'Or, Mr. E. J. Poole second with the same variety, and Mr. C. Payne third with Mr. J. Murray.

In the restricted class for twelve incurved Mr. T. E. Couldrey, jun., gardener to W. Watson, Esq., Grove Park, was the only exhibitor, and received the first prize. For twelve Japanese, distinct, Mr. T. E. Couldrey, jun., was easily first with Vivian Morel, Madame Gustave

Henry, Lady Hanham, Mutual Friend, President Nonin, Van den Heede, Mrs. White Popham, Australie, Madame Carnot, Chas. Davis, Phœbus, and one other. Mr. R. E. Brain, gardener to H. Webb, Esq., Grove Park, was second, and Mr. G. Evans, gardener to Mrs. T. Penn, Lewisham, third. There were four exhibitors. For six incurved Mr. T. E. Couldrey, jun., was first with Lady Isobel, Chas. H. Curtis, Mr. J. Murray, Mrs. R. C. Kingston, Mrs. N. Molyneux, and Baron Hirsch. Mr. T. Couldrey, sen., Lee, was second. For six Japanese, distinct, the prizewinners were Messrs. T. E. Couldrey, jun., G. Evans, and J. Sainsbury in the order in which the names are given. Mr. Couldrey, jun., showed Madame Gustave Henry, Vivian Morel, President Nonin, Mrs. W. Mease, Mrs. White Popham, and Phœbus.

Some excellent flowers were shown in the amateurs' section. For twelve Japanese Mr. T. Sharpe, Stone, Greenhithe, was first; Mr. G. C. Farmer, Leeds Abbey, Maidstone, second; and Mr. J. Cartwright, East London Industrial Schools, Lewisham, third. For six Japanese Mr. T. Sharpe was again first, Mr. J. Cartwright second, and Mr. G. C. Farmer third. Messrs. T. Sharpe and G. C. Farmer were respectively first and second for six incurved. For six Japanese, one variety, Mr. J. Cartwright was first with Mutual Friend, Mr. T. Sharpe second with Miss Nellie Pockett, and Mr. J. Cartwright third with N.C.S. Jubilee. Mr. F. Westcott, Lewisham, was first for twelve Japanese to be grown within five miles of New Cross Station.

An important class is that for twenty-four blooms, eight of each, Japanese, incurved, and reflexed. Mr. F. J. Poole was first with Japanese: Jane Molyneux, J. Bidencope, Lord Ludlow, Australie, Zephoris, Mrs. Barkley, Mrs. H. Weeks and Madame G. Terrier. Incurved: Globe d'Or, Golden Empress, C. H. Curtis, Emile Nonin, Thos. Singleton, Hanwell Glory, Golden Nugget and Chrysanthème Bruant. Reflexed: Dorothy Gibson, Amy Furze, Dorothy Oxberry, Miss F. Lunn, Chas. Tutt, Felicity, King of Crimsons and Cloth of Gold. Mr. C. Payne was first for twelve Japanese, in four varieties, shown in vases; it was a fine exhibit. Mr. E. Dove was second and Mr. C. Dann third. For twelve large flowered Anemones Mr. E. J. Booker was first, and M. J. Lyne second.

Miscellaneous exhibits were numerous, varied in character, and of excellent quality. Messrs. J. Laing & Sons, Forest Hill, arranged a group of Chrysanthemums containing some fine flowers, and a table of excellent fruit. Apples were particularly fine. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, sent miscellaneous plants, including Bamboos, Crotons, Begonia Gloire de Lorraine, and Chrysanthemums in variety. Messrs. W. Wells & Co., Ltd., Redhill, showed a box of twelve Japanese, including one or two good novelties. Mr. T. Edwards, Arnold, Notts, sent the well-known Edwardian ware. Messrs. J. Peed & Sons, Norwood, contributed Apples and Pears in excellent condition and variety. Messrs. H. Cannell & Sons, Swanley, staged handsomely coloured Apples and Pears with a box of fine Japanese Chrysanthemums.

Battersea, November 2nd and 3rd.

THE Battersea, Clapham, and Wandsworth Amateur Chrysanthemum Society, which held its annual exhibition on the above dates in the Town Hall, Lavender Hill, is one that deserves every commendation for the admirable work it has done during the past nine years in creating and fostering a love for gardening. That the labour has not been in vain is proved at every show as well as at the customary monthly meetings, and the present gathering was probably the best they have had. Considering the conveniences at the command of the growers many of the bloom were of remarkably good quality. We give particulars of a few of the classes, as we cannot possibly pass the whole in review.

There were a few open classes, of which the most important was that for eighteen Japanese, in not less than twelve varieties. Mr. Alex. Smith, The Gardens, The Convent, Roehampton, was placed first with a fine stand of fresh brightly coloured blooms of the following varieties:—Mrs. W. Mease, Lady Ridgway, Miss Nellie Pockett, Lady Hanham (N.C.S. certificate as the finest Japanese in the show), Phœbus, Chas. Davis, Henry Weeks, Mrs. H. Weeks, Mabel Kerslake, Madame Gustave Henry, Pride of Madford, Le Grand Dragon, Eva Knowles, N.C.S. Jubilee, Vivian Morel, and Col. W. B. Smith. Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham, was a fair second with J. C. Clayton, Mrs. A. Weeks, Australie, and R. Hooper Pearson as his best flowers. Mr. C. Payne, gardener to C. J. Whittington, Esq., Elmhurst, Bickley, was third. There were six competitors.

Messrs. A. Smith and W. Howe were first and second again in the class for twelve Japanese, staging much the same varieties as in the preceding class. Mr. J. French, gardener to Mrs. Barclay, Ambleside, Wimbledon, was a good third. The last named exhibitor was an excellent first for six incurved, distinct, showing in good character Hanwell Glory, C. H. Curtis, Triomphe d'Eve, Lord Wolseley, Pearl Palace, and Topaze Orientale. Mr. W. Howe was second, and Mr. A. Smith third. A further class for twelve Japanese, in not less than eight varieties, was restricted to single handed gardeners and amateurs. Mr. W. A. Hurst, gardener to A. F. Fitter, Esq., Streatham Hill, was first with handsome examples of Mr. A. Barratt, N.C.S. Jubilee, E. Molyneux, Le Grand Dragon, Pride of Madford, Emily Silsbury, and Mrs. Coombs. Mr. J. Brown, Norman Road, Wimbledon, was second, and Mr. A. J. Povey, gardener to R. Mayne, Esq., Larkhall Lane, third.

In the open class for a group of miscellaneous flowering and foliage

plants (*Chrysanthemums* excluded), arranged in a space of 36 square feet, Mr. H. Boswell, gardener to Purnell Purnell, Esq., Woodlands, Streatham, was first with a graceful combination of *Celosias*, *Primulas*, *Ferns*, *Begonias*, *Roman Hyacinths*, *Palms*, and a few well coloured *Crotons*. Mr. J. Hudd, gardener to J. Price, Esq., Clapham Common, was second with admirably grown plants of *Dracenas*, *Crotons*, and *Palms*, but the arrangement lacked lightness and colour. In the amateurs' group of *Chrysanthemums* Mr. W. Forth, Wandsworth, was an excellent first with well grown plants of some of the leading varieties. Mr. W. Stringer, Battersea was second; and Mr. W. Marklin, Brixton Hill, third.

Amateurs in the districts named showed some excellent flowers, but we are unable to particularise. Mr. R. Neal, Wandsworth Common, sent a group of miscellaneous plants; and Messrs. W. Wells & Co., Ltd., Earlswood, splendid Japanese *Chrysanthemums*.

Hereford.

THIS the ninth annual exhibition was held in the Shire Hall, Hereford, and for the magnitude and excellence of the fruit shown was a distinct advance on any that had been held previously. The arrangements as to the two outside rows of tables being broken up in the middle gave a much freer circulation to the public, while the middle row being decorated with small and choice foliage plants, and all the rows covered with white cloths, much enhanced the general effect as well as the rich colour of the fruit. Not less than 1000 feet of tabling was required mostly for the Apples and Pears, which gives some idea of the scale of the exhibits—for reporters here would like to put on record two points for consideration, whether it is worth while to handicap so grand a display of fruit by delaying the day so late—more than a month after the Crystal Palace—for the sake of combining a fruit with a *Chrysanthemum* Show, to the great detriment of the former, while the latter was quite on a small and third rate scale; the second point he would raise, and one of more general bearing, is, whether the present fashion of giving such prominence to the high colouring of Apples (not that Herefordshire is a loser in this respect) is not carried too far? To take a single instance, Warner's King, which was shown quite highly coloured, but of a thoroughly non-typical character, which surely should be the object of every exhibitor and judge.

The president, Sir James Rankin, Bart., M.P., on the occasion of opening the exhibition by Lady Rankin, made some useful remarks on the value of such exhibitions; pointing out the importance of fruit growers only getting the very choicest and most profitable varieties, which they had full opportunities of doing from what they saw before them; he also recommended every advantage being taken from the instructors of the Technical Instruction Committee of the County Council. It may be added here that the liberal prizes offered by that body had been freely availed of, no less than twenty entries being admirably competed for. This remark, indeed, holds good throughout the whole exhibition, every class being keenly contested, and while the size of individual specimens—as at the Crystal Palace—failed to reach, perhaps, the standard of last year, the collective merits of the Apples as to colour and smoothness throughout the exhibition was admirable. Specially noticeable were the following varieties:—*Stirling Castle*, *The Queen*, *Mère de Ménage*, *Warner's King*, *Emperor Alexander*, *Peasgood's Nonesuch*, *Striped Beefing*, *Nelson's Codlin*, *Flanders Pippin*, *Hollandbury*, *King of Tompkins' County*, *Gascoyne's Scarlet Seedling*, *Cox's Orange Pippin*, *Egremont Russet*, *Scarlet Nonpareil*.

In the matter of dessert Pears Herefordshire does not hold quite the unique position she does with Apples. Late frosts, except in very favourable situations, are generally fatal, and although Pears were shown this year creditably, and far better than last year, yet now that the celebrated cordon wall at Holme Lacey is past its best there is no one to cross weapons with Mr. Woodward, armed with the irresistible products of the Barham Court Gardens, as was the case on former occasions in the lifetime of the late Lord Chesterfield. Your reporter remembers an amusing incident if, Mr. Editor, you can find space, about Mr. Woodward's predecessor (we forget his name) on his paying him a visit some years ago, while the Hereford Fruit Show was going on, how the Kentish gardener suddenly collapsed on crossing an orchard, and falling on his knees before several freshly turned up mole heaps rapturously exclaimed to Dr. Hogg, who was also present, "Oh, that I had this Herefordshire loam, I could whip all creation!" "Ah, but, my friend," was the answer, "how about this climate and the nipping frosts?"

Appended is a list of most noticeable collections. First prize, Mr. John Watkins, Pomona Nurseries, Withington. Fifty dishes.—First row: *Stirling Castle*, very fine, clean; *Byford Wonder*, *Waltham Abbey Seedling*, *The Queen*, finely coloured; *Cats-head*, *Ecklinville Seedling*, *Bismarck*, *Lord Grosvenor*, good; *Mère de Ménage*, grand dark colour; *Banks' Exhibition*, *Warner's King*, unusually coloured; *Annie Elizabeth*, *Emperor Alexander*, splendid; *Gloria Mundi*, *Peasgood's Nonesuch*, *Scorpion*, grand; *Striped Beefing*, heavy, fine specimen; *Bramley Seedling*. Second row: *Pomona Pride*, *Golden Noble*, *Dutch Fulwood*, *Seedling 139*, *Jacque Levet*, attractively striped; *Nelson Codlin*, good; *Beauty of Kent*, rich colour; *Loddington*, *Costard*, *Flanders Pippin*, high colour; *Hollandbury*, superb; *Blenheim*, *Sergende Reinette*, fine quality; *New Hawthornden*, *Twenty Ounce*.

Third row: *King of Tompkins County*, fine colour; *Lord Beacoosfield*, rare colour; *Ribston Pippin*, true; *Warner's King*, prettily striped; *Washington*, *Monmouthshire Beauty*, *Cox's Pomona*, splendid plate; *Wealthy*, fine; *British Queen*, *Cox's Orange Pippin*, smooth and bright; *James Grieve*, *Wadhurst Pippin*, *Tyler's Seedling*, *Blue Pearmain*, *Worcester Pearmain*, high coloured; and *Maltster*. Second prize, *King's Acre Nurseries*; a remarkably fine, smooth, but not quite so highly coloured and level a collection. Most noticeable specimens were *Gascoyne's Scarlet Seedling*, superb; *Hollandbury*, unusually well shown dish; *Warner's King*, grand; *Lord Grosvenor*, and *Striped Beefing*, fine. Third prize, *Pewtress Brothers*; a very fine collection, but not so level as the former collections.

Collection of Pears, open to all, twenty-four dishes. First prize, H. C. Moffatt, Esq., Goodrich (gardener, Mr. C. Spencer), with *Pitmaston Duchess*, fine; *Catillac*, *Marie Louise d'Uccle*, very smooth and fine; *Beurré Baltet Père*, *Beurré Clairgeau*, good colour; *General Todtleben*, *Beurré d'Avalon*, *Beurré Diel*, clean and fine; *Durondeau*, *Beurré Superfin*, *Glou Morceau*, *Duchesse d'Angoulême*, fine; *Crasane*, *Nouvelle Fulvie*, poor; *Maréchal de Cour*, *Doyenné du Comice*, *Josephine de Malines*, *Forelle*, bright colour; unknown, *Marie Louise*, *Hughes' Victoria*, *Beurré d'Assomption*, *Bergamot d'Esperen*, *Winter Nelis*. Second prize, Mr. John Watkins, Pomona Nurseries, who had extra fine specimens of *Hacon's Incomparable* and *Pitmaston Duchess*. Third prize, Mr. R. M. Whiting, Credenhill, Hereford.

Class 3, Amateurs.—Collection of Apples, thirty dishes. First prize, G. T. Bates, Esq., Whitfield (gardener, Mr. R. Grindrod). Especially noticeable varieties in an excellent collection were—culinary: *The Queen*, *Mère de Ménage*, grand size and colour; *Emperor Alexander*, finest dish in show; *Peasgood's Nonesuch*, grand; *Tyler's Seedling*, *Newton Wonder*, very good. Dessert: *Egremont Russet*, *Tewkesbury Baron*, very fine colour; *Adam's Pearmain*, good; *Cox's Orange Pippin*. Second prize, Mr. R. M. Whiting, with fine specimens, only a few points behind, *Devonshire Red*, superb colour; *Lane's Prince Albert*, *Stirling Castle*, very clean and fine; *Hornead Pearmain*, excellent. Third prize, Mr. R. Morrow, Leominster, with fine specimens, including *Tyler's Seedling*, very fine colour; *Cox's Pomona*, and *Manks Codlin*, clean and well shown.

Class 4, collection of Pears, twelve dishes. First prize, G. T. Bates, Esq., Whitfield, especially noticeable being specimens of *Beurré Diel* curiously elongated; *Doyenné du Comice*, finest in show; and *Pitmaston Duchess*. Second, G. H. Hadfield, Esq. Third, Sir Joseph Pulley.

For single plates of Apples of ten named varieties, five specimens, *Cox's Orange Pippin* was admirably shown by Mr. John Watkins; *Dumelow's Seedling* by the King's Acre Nurseries; and *Peasgood's Nonesuch* by Campbell & Gettings.

Class 22, amateur collection of Apples, twenty-four varieties. First prize fell to W. E. King King, Esq. (gardener, Mr. Davis), for an admirable collection—*Tower of Glamis*, *Warner's King*, fine; *Tyler's Kernel*, wanting colour; *Peasgood's Nonesuch*, *Lord Derby*, *Mère de Ménage*, best in show; *Waltham Abbey Seedling*, *Cox's Pomona*, brilliant; *Scarlet Crofton*, old and good variety; *Stirling Castle*, clean and smooth; *Annie Elizabeth*, fine colour; *Striped Beefing*, fine everywhere; *Ecklinville*, *Blenheim Orange*, small everywhere; *Duke of Devonshire*, *King of the Pippins*, very good; *Cox's Orange Pippin*, clean and fine; *Adam's Pearmain*, *Crimson Queen*, good looking but bad eating; *Ribston Pippin*, *Egremont Russet*, excellent; *May Queen*, *Fearn's Pippin*. Second, Mrs. Blashill, running the first prize very close; noticeably fine were *Lane's Prince Albert*, well shown; *Cornish Aromatic*, grand; and a promising variety named *Barnack Beauty*, which ought to be useful and long-keeping. The nomenclature throughout the classes was very regular and accurate, hardly a dish not being named. A useful class was added for the best packing, in which a marked improvement from last year was noticeable. First prize, G. Bates, Esq., Whitfield; second, P. Walker, Esq., Belmont; third, Mr. J. Watkins, Eaton Bishop.

It will suffice to mention, as regards the vintage fruit—a class perhaps not particularly palatable with the general public, except in the up-to-date improved shape of cider and perry—that the several classes were well and fully filled by the tenant farmers. It, however, is interesting to add that the chief and best known early variety, the *Fox-whelp Apple*, for cider, is also highly to be recommended as an excellent cooking and selling variety, as also for its free bearing properties, year after year, soon after the date of planting. The following officials acted as judges: Messrs. A. Haggart, Moor Park, Ludlow; W. Crump, Madresfield; A. Chapman, Tenbury; M. Biggs, Garnstone Castle; E. Mullins, Eastnor Castle; John Watkins, Pomona; C. Whiting, Hereford; H. Rogers, Hereford; and H. Pewtress, Tillington.—HEREFORDSHIRE INCUMBENT.

The County Council and Garden Sheds.—A correspondent at Catford calls attention to a grievance, in regard to which he will receive considerable sympathy. Desiring to use a portion of his garden for keeping a motor car, bicycle and tools, he roofed it in without obtaining permission from the London County Council. The roofing in question cannot be seen by pedestrians, and apparently is in no way objectionable to anybody, nevertheless the Council has informed him that the roofing must be removed.



Fruit Forcing.

Peaches and Nectarines.—Earliest Forced House.—The final thinning of the shoots or branches should have immediate attention, unloosing the trees from the trellis and tying them in convenient bundles so as to admit of ready access to the woodwork and glass for cleansing operations. Wash the glass with water and the woodwork with scap and water, using a brush; then wash the trees with warm soapy water at a strength of 3 czs. of softsoap to a gallon of water, and afterwards dress them with an insecticide. Limewash the walls. Tie in the trees loosely, allowing space for the growths to swell without binding, letting the young shoots be laid in about 9 inches asunder, and not closer on the branches than 15 to 18 inches. A shoot of 12 to 15 inches in length will give a good percentage of fruit for thinning, provided the wood be well ripened; and a Peach worthy of the name to every foot of trellis covered by the trees is quite enough, or as much as those under early forcing conditions can support year after year.

Under the most approved methods the trees will have been at rest some time, and the roof-lights having been removed the borders, with the recent rains, have been well moistened down to the drainage. The house also should be thoroughly cleansed, the trees untied on the trellis, the border surface dressed, and all put in complete order when the leaves were down, ready for a start when the time arrives. If, however, the roof-lights have not been removed do not allow the soil to become too dry at the roots of the trees, as that is sufficient to cause the buds to fall. If the trees are weakly, or with too many buds, a supply of liquid manure whenever water is required will be of great benefit. The loose surface soil or mulching should also be removed down to the roots, not disturbing them, but supplying an inch or two thickness of good loam, afterwards sprinkling on it about 4 ozs. per square yard of some approved fertiliser. Borders that are rich in humus from heavy dressings of manure or thick liquid may be dressed with basic slag powder, using 4 czs. per square yard and pointing-in lightly.

Second Early Forced Houses.—The trees are now leafless, and should be pruned after untying. The house ought then to be thoroughly cleansed, with the object of exterminating insects before they have time to find safe winter quarters. A good syringing with paraffin oil and water, a wineglassful of petroleum to 4 gallons of water, one person syringing into the vessel and another on the house, or the operator squirting alternate syringeful into the vessel and over the trees and house, having the water heated to 140°, and wetting every part of the structure. It does not leave a stain on the glass as do soapy solutions. In pruning early forced trees it is not advisable to cut away much wood, confining it to removing useless parts, and long, unripe shoots, which may be cut back to a double or triple bud, making sure that one is a wood bud, or to a wood bud on well ripened wood. Shoots, however, need not be shortened under any circumstances, except where there is not space for the successional growths, or to originate growths for furnishing the trees. Those of 8 to 12 inches in length should not be shortened at all, as they usually have wood buds at the base and one at the extremity, the others being blossom buds. It is a mistake to retain much wood, which weakens the trees in flowering, and there is not space for training the growths without crowding.

Houses Started in February.—The trees are shedding their leaves and the buds are not too highly developed. This is assuring of the trees retaining of them, for over-development of the buds, combined with dryness at the roots and fluctuations of temperature, with changes of moisture, are the chief causes of the buds being cast. Any lifting or root-pruning yet in arrears should be seen to and brought to a close as soon as possible. When the leaves are all down it will be an advantage to remove the roof-lights and expose the trees to the weather until the time of starting, or till the buds commence swelling. The severest weather will not injure those with well ripened wood. Where the roof-lights are not movable admit air freely in all but very severe weather, and even then if the hot-water pipes can be emptied of the water and kept so, and see that there is not any deficiency of moisture in the borders. If the trees are not lifted remove the surface soil down to the roots, and supply fresh stiff loam to which has been added some charred refuse, not more than one tenth, and a sprinkling of bonemeal.

Houses Started in March.—The trees in these structures, if closed early in March, will ripen their fruit in July if brought forward by artificial heat, but where warmth is only given when the trees are in blossom, and to insure the safety of the young fruit from frost, the fruit will not ripen until August or September if kept cool. The house may be a glass-covered wall with sufficient hot-water piping to exclude frost, a genial warmth being afforded when the trees are in blossom, and accelerating the ripening as may be necessary in cold districts. The trees are now leafless, or nearly so, and should undergo the

operation advised for the earlier houses. The roof-lights should be removed, but the hot-water pipes emptied, leaving the lights off until the blossoms show colour, unless it is desired to start the trees before. If the lights are fixed the ventilators should be thrown open to the fullest extent, except during very severe weather, or even then if the hot-water pipes are emptied.

Latest Houses.—Late Peaches are quite as valuable as early ones, considering that they are had at much less cost, for all that is necessary for late houses is a gentle warmth in spring and autumn, and not always heat at those times. Make no attempt to remove the leaves until they part readily from the trees by shaking the trellis. Cut out all wood that has borne fruit except extensions, and all superfluous growths. Do not allow the soil to become very dry, but if necessary give water to moisten the soil down to the drainage. Keep the house cool by free ventilation, clearing away the leaves as they fall. Trees that grow too luxuriantly should be lifted or root-pruned whilst the leaves are partly on the trees, but the wood being unripe they must not be lifted until the leaves have for the most part fallen, or the unripe wood will shrivel and die. If the wood does not ripen well turn on the heat by day with moderate ventilation, and turn it off early in the afternoon, so as to have the pipes cool before night, and then open the ventilators unless frost prevails, when ventilate according to circumstances, for a sudden collapse of the foliage is detrimental to the tree's health. When the wood does not ripen up to the points of the shoots a trench may be taken out at some distance from the stem, and the roots be cut, which will check the tendency to growth and induce ripening. After remaining open ten days or a fortnight the trenches may be closed, making the soil firm, and giving a good watering.

The Kitchen Garden.

Autumn Work.—In the month of November there is some, but not much, vacant ground in well cropped gardens, and something will have to be done to the respective plots in order to render them presentable in appearance, and fit the ground for the reception of succeeding crops. Where the soil is naturally of a light nature, and non-retentive in character, digging in green stuff will benefit rather than otherwise. It is a great mistake, however, to bury such remains of crops as are long in decaying, as Cauliflower, Cabbage, and other Brassica stumps, and even dig in remains of fruit crops that are likely to retain their vitality for a considerable time, as such debris only affords food and harbour for a number of ground pests, both animal and vegetable, not a few being not only saprophytic, but also parasitic in their nature.

Light Soils.—In general light non-retentive soils are best left undug and unmanured until nearer cropping time than is advisable for good deep loams, which, being of a friable nature, mellow still more by the free passage of water through the soil, and lose very little, if any, of the manurial elements liberated by the action of carbonic and organic acids on the rock substances of the soil. Some clayey soils are liable to run badly when dug in the autumn or early winter months, and they, like light land, are best left until the late winter, so that they may be dried and pulverised by the early spring winds and frosts.

Clayey and Stiff Soils.—Clayey soils generally, however, are greatly benefited by early digging and laying up roughly with a view to their being well exposed to the weathering influence of sunshine and frost, wind and rain. Stiff soils may also be safely and effectively manured early, especially if somewhat strawy stable manure be freely dug in. But it is important not to wheel or trample on clayey soils during wet weather, as this converts them into a soapy state, and prevents satisfactory working for a considerable time, often for the following season.

Digging.—In digging half worn out tools signify work of correspondingly shallow description, the depth of the turnover not being more than 6 inches, hence affording indifferent rooting area to crops, which in consequence are liable to suffer in droughty periods, and the produce poor crops. Good workmanship consists of turning the top spit to the full depth of a spade or digging fork. A spade is more suitable digging light and moderately free working soils, but a fork is the better implement for those of a heavy nature. In digging always open a wide trench, a width of a foot not being too much, taking care to bury the weeds and strawy manure in this trench. Instead of breaking the clods or chopping them down leave them rough, and saturation of the soil will be less likely to take place, while the action of wind, sunshine, and frost will have freer access.

Trenching.—Trenching is an operation that should not be entered upon without due consideration. It is very injudicious to bring up a mass of poor, stubborn, unworkable soil to the surface, and deeply bury that which is fertile and free working. In the case of deep loams, alluvial or deposited soils, that underneath may be of much the same fertile character, only more consolidated, as the surface soil was previous to being heavily cropped, and the change may prove most beneficial in consequence, as there will not only be a freer rooting area, but the mineral matters brought up serve to strengthen the crop and render it more disease resistant. Trenching may also be resorted to advantageously where the subsoil has been previously well prepared for bringing to the surface by stirring and mixing with various soluble and insoluble materials. Soils thus broken up deeply and being fertile will be capable of producing extra heavy crops of higher quality, and singularly nearly all vegetable crops are greatly improved by being

grown on trenched ground. The trenching should be done as early in the winter as possible, always long enough in advance of cropping for the ground to settle down considerably, as, though a deep root-run is desirable, it is very important that the staple be firm in the case of deeply stirred soil, or there is danger of too much leafage being formed and the useful part of the crop prejudiced.



All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Australian Plants (J. J. K., Melbourne).—Though we cannot add to the pressure of routine duties that of mediator in the negotiations of the nature suggested in your interesting letter, we readily send it to the Secretary of the Royal Horticultural Society in case he should know any Fellows of that great organisation who would like to communicate with you.

Book on Rose Culture (H. H.).—There can be no doubt that the "Book of the Rose," by the Rev. A. Foster-Melliar, is quite the best for your purpose, as it covers all the ground specified in your letter—in fact, it is a complete work on the queen of flowers. The publishers are Messrs. Macmillan & Co., Ltd., St. Martin's Street, London, and the price is 5s. The book may be obtained through any bookseller, or direct from the publishers. In the latter case the postage would be about sixpence.

Rose Heps (P. B. L.).—These are in no way injured by remaining on the trees to be frozen to some extent, indeed it is questionable if severe frosts are detrimental to their germination. Gather when ripe, open them and store the seeds in damp cocoa-nut fibre refuse or leaf mould till spring. They may be sown either in pots or boxes in a frame on a mild hotbed, or in drills in the open ground in March. Some of the seeds are often slow in germinating, therefore there must be no undue haste in disturbing the beds, or withholding water from pots or boxes in which the seeds have been sown. As you do not state your conveniences for raising the plants a choice of methods is given. Cover the seeds an inch deep, and keep the soil uniformly moist by shading to arrest evaporation, and watering to supply moisture as it may be required.

Unhealthy Pear Trees (W. D. D.).—Judging from the spur sent we suspect the cause of the unhealthiness of your trees to be ungenial and possibly water-logged soil. If the ground is wet drain it thoroughly to a depth of 3 feet, having a clear outlet for the water. If the subsoil is not wet, then the condition of your trees is attributable to poverty of the soil. The remedy in this case is to remove the surface soil, just clearing the roots, covering them with the best compost you can obtain, and over this place a good quantity of rich manure. Limewash the trees, or, what is equivalent, dust them with dry lime when the branches are wet. If blossom buds predominate over wood buds remove some of the former, especially taking off any at the tips of the branches. Your aim must be to induce clean healthy young shoots, not permitting the trees to blossom profusely, and your trees will regain their vigour.

Grubs in Garden Soil (C. W. P.).—The land is probably full of predatory vermin, and will not be freed by a single dressing of any kind, for when the soil gets foul, whether it be with weeds by allowing them to seed, or with vermin by allowing them to breed, the remedial measures must of necessity be more extended and more persistent than when the malady is of a less chronic character. We should apply a dressing of gas lime now, or as soon as the ground is clear of its crops, at the rate of a peck per rod, mixing it with two or three parts of fine dry soil, or fine ashes, so as to admit of its more equal distribution. This should be spread evenly on the surface and left for a few days, then point in lightly with a fork and leave it for a fortnight. After this the ground may be manured and dug over for the winter. The gas lime will have lost much of its deleterious effects before spring, and in a measure be less likely to prove injurious to vegetation, indeed we have not found the effects of dressings of gas lime at the strength named at all injurious; but for ordinary dressings we only apply half the quantity of the gas lime. If the land is much infested with slugs it may have a dressing of nitrate of soda at the rate of 1 lb. per rod before putting in the crops, or be dressed with a mixture of quicklime and soot in equal parts, with a half part of salt, all being thoroughly dry and well mixed, and applied at the rate of a peck per rod, pointing in before sowing or planting. This is an excellent fertiliser, and a valuable agent in the destruction of predatory vermin.

Asphalt Paths (J. H. G.).—Take two parts of very dry lime rubbish, and one part coal ashes, also very dry, and both sifted fine. In a dry place on a dry day mix them, and leave a hole in the middle of the heap as bricklayers do when making mortar. In this pour boiling hot coal tar, mix, and when as stiff as mortar put it down 3 inches thick to form the walk. The ground should be dry and beaten smooth. Sprinkle over it coarse sand. When cold pass a light roller over it, and in a few days the walk will be solid and waterproof. A neater appearance is given by sprinkling with spar, yellow or other gravel, which must, of course, be fine, and put on immediately after laying down the asphalt, in place of the sand.

Transplanting Standard Variegated Holly Trees (D. M.).—May is the best month in which to plant Holly trees, it being important in the case of large trees that they be lifted with all the roots practicable, and with a ball of soil if possible, choosing rather damp weather for the operation. As this cannot always be relied on, it is well to shade the heads for a short time each bright day from powerful sun, and in the evening sprinkle them lightly. This is better than deluging the soil with water, though a good watering should be given to settle the soil about the roots, and afterwards sufficient ought to be supplied to render it moist, avoiding, however, a very wet condition of the soil, as this retards rather than favours root formation. It is also advisable to reduce the heads somewhat rather severely, though this is only feasible when the growths are straggling and a neater habit desirable. The Holly breaks freely from the old wood, so that shortening of the twigs and branches may be performed to almost any extent.

Growths at Ends of Yew Twigs (C. C. E.).—The small green bunches with which the Yew tree is covered are caused by the Yew gall midge (*Cecidomyia Taxi*), a small fly with a long ovipositor, which deposits eggs in the centre of the terminal buds. The larvæ or maggots hatch out and set up the irritation resulting in the development of each affected bud into a small bunch or cone of green leaves, called a gall, amongst which the larvæ live, feeding on the extravasated juices of the would-be young growth, and thus appropriating the substance that would otherwise have gone to form a shoot. When the larvæ are full-fed or grown they drop to the ground, enter it, and become pupæ, in which state the winter is passed, and the midges or flies emerge in the spring. The galls formed by the gall midge are usually solitary, though two, or even three, may be found side by side at the tip of the twigs, the growth of which they check. They do not, however, inflict much injury on the tree. Should it be desired to get rid of the galls, they are so conspicuous that they can readily be detected and cut off. This should be done as soon as possible after their formation, while they still enclose the larvæ, and burning them.

Diamond-shaped Bed for Bulbs (Amateur).—In a diamond-shaped bed planted only with bulbs we should place in the centre either Hyacinths or Tulips or a mixture of both, and on each side of these a clump of single or double Daffodils, either separately or mixed. On the other vacant sites plant a mass of *Scilla sibirica*, a pretty blue flowering bulb, and fill up the bed with Crocuses and Snowdrops, the latter planted next to the grass. If it is not desired to plant the whole bed with bulbs, Pansies might be introduced, or a clump or two of Forget-me-nots, Wallflowers, or Polyanthes. Any of these would of themselves form an attractive bed, but for the sake of variety a mixed bed of these with a few bulbs of Hyacinths, Tulips, or Narcissi, and edgings of Crocuses, Snowdrops, or Scillas, would form a most enjoyable spring display of flowers, lasting over a long period. No special soil is needed, only it should be dug deeply and broken up well, so that thorough drainage is insured. If the soil is heavy leaf soil should be incorporated with it, and if poor well decayed manure should be dug in. The bulbs may be placed in the soil about twice their own depth, the largest being disposed about 6 inches apart, and the smaller according to their size. Planting the bulbs may be done at any convenient time during October, November, and December; but the plants should be placed in their intended positions as soon as possible. Protection from rain or snow is not necessary.

Improving Lawn Tennis Ground (F. C. B.).—It is not unlikely that the lawn requires draining, and if so the first step to take is to put in drains 6 or 7 yards apart and 18 inches deep, with proper falls into a main drain, and a clear outlet for the water. Three-inch pipes will suffice, and they should be covered 6 inches deep with rough cinders or gravel to render them permanently effective. Drainage, however, may not be needed—of this you ought to be the best judge; but whether it is done or not a heavy dressing of fresh soil, with a liberal admixture of manure, lime, and wood ashes spread over, so as almost to cover the grass, cannot fail to be of great benefit. Before applying the dressing comb off all the moss possible with a small sharp-toothed rake. This may be done at any time when the ground is dry, very early in spring, and later, when the weather is genial, sow seeds of a renovating lawn mixture thickly. Rake it in and roll the ground lightly, and you may expect a greatly improved lawn a few weeks afterwards. If you state the extent of the ground to any seedsman or firm who deal largely in grass seeds, the proper quantity of a suitable mixture will be sent. If the lawn is full of deeply rooted weeds you had better dig it up, forking and picking out all the rubbish, then making it level and firm, and sow it as before advised. In this way you may form a cleaner and better lawn than by taking up the old and laying down fresh turf, as you propose, as however clean the turf may be, the roots of weeds left in the ground will grow, and the new turf will soon be as unsightly as the old.

Treatment of Vine Borders (*Young Gardener*).—The outside border, to which a good dressing of well-decayed stable manure was applied last spring and dug in, would certainly be benefited by a dressing of bonemeal for a change. It would answer quite as well, or even better, to give the outside border a dressing of basic slag phosphate, as this consists of about half free lime, and is excellent for borders or land that have been previously somewhat heavily and frequently dressed with stable or cowhouse manure. About half a pound may be applied per square yard, preferably in the autumn or early winter, and pointed-in. In the spring a mixture of three parts superphosphate of lime, two parts nitrate of potash, and one part sulphate of lime mixed can be supplied at the rate of 4 ozs. per square yard, scratching or pointing-in very lightly. As you have not top-dressed the inside border, but have watered-in Thomson's manure at intervals during the growing season, it would be advisable to remove some of the surface soil down to the roots, taking care not to injure them, and top-dress with fresh turf mixed with bonemeal, which would supply phosphoric acid and some ammonia. If you do not overcrop the Vines next year, and the management is good, the Black Hamburg Grapes ought to colour well. Unless the Vines are forced early it is not advisable to cover the outside borders, but leave them exposed to the weather; but if forced, a covering of leaves to prevent the soil being frozen is desirable.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (*J. H. W.*).—In its present condition the Apple is comparatively inferior; we are doubtful if it will ever equal Fearn's Pippin, to which it bears some resemblance. (*J. M.*).—Probably the Apple is a seedling of local origin of the Hunthouse type; it is inferior as compared with many other varieties. (*J. W. S.*).—1, Tibbitt's Pearmain; 2, Tom Pott; 3, Gloucestershire Costard; 4, Catillac; 5, Beurré Clairgeau; 6, Beurré Bosc. (*H. J. P.*).—1, Yorkshire Greening, fine; 2, Rymer; 3, unknown, probably a local seedling. (*J. M. W.*).—Apples: 1, Cox's Orange Pippin; 2, New Hawthornden; 3, not recognised. Pears: 1, Marie Louise d'Uccle; 2, Marie Louise, small; 3, Beurré Superfin. (*E. O. C.*).—We regard the Grape as a nearly round berried form of the Black Alicante. Vines are occasionally found that produce such berries, and similar bunches to the one you send are not infrequently seen in large competitions of black Grapes, such as at the Crystal Palace, Shrewsbury, and Edinburgh. Your particular Vine may possibly be a "sport," but if so we cannot regard it of any special value, at least we know of Vines that produce similarly shaped but larger berries of better quality. (*H. J.*).—1, Worcester Pearmain, unusually pale and firm; 2, Cockpit; 3, Fearn's Pippin; 4, Whorle Pippin. Nails inserted in the eyes of fruits destroy one of the essential characters or aids to identification. We have received several boxes of fruits with no indication as to senders; after saving for some days waiting for letters, they have had to be thrown away.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*R. P. H.*).—1, Verbena venosa; 2, Gazania splendens; 3, Oxalis purpurata. (*J. E., Salop*).—Celsia cretica (arcturus), propagated by seeds sown in gentle heat in March and April. (*J. M.*).—Passiflora princeps. (*B. J.*).—1, Pyrus torminalis; 2, Calluna vulgaris; 3, Origanum vulgare. (*C. W.*).—1, Asplenium bulbiferum; 2, A. biforme.

Trade Catalogues Received.

W. Barron & Son, Barrowash.—*Trees and Plants.*
J. Cocker & Sons, Aberdeen.—*Roses.*
J. Jefferies & Son, Cirencester.—*Bulbs, Roses, and Fruit Trees.*
W. Wells & Co., Ltd., Earlswood, Red Hill.—*Chrysanthemums.*

Covent Garden Market.—November 7th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bush. ...	2	0 to 4	6	Nectarines, doz. ...	1 6 to 9 0
" cooking, bush. ...	1	6	5	Oranges, case ...	10 0 15 0
Cobnuts, doz. lb., best ...	4	0	5	Peaches, doz. small ...	1 0 2 0
Figs, green, doz. ...	0	6	0 10	" doz. good size ...	6 0 9 0
Grapes, black ...	0	6	2 6	Pears, crate ...	3 0 7 0
" white ...	1	6	3 0	" stewing, case of	
Lemons, case ...	8	0	25 0	72 to 120 ...	4 6 6 6
Melons, house, each ...	0	6	2 6	Pines, St. Michael's, each	3 0 6 0
" water, case ...	3	6	5 0	Plums, $\frac{1}{2}$ bush. ...	3 6 0 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	3	0 to 4	0	Leeks, bunch ...	0 1 $\frac{1}{2}$ to 0 0
Asparagus (Sprue Grass) ...	0	8	0 10	Lettuce, doz. ...	0 9 0 0
" Paris Green ...	5	0	6 0	" Cos, score ...	0 6 2 0
Aubergines ...	1	0	1 6	Mint, green, doz. bnchs.	2 0 0 0
Beans, French, per lb. ...	0	4	0 6	Mushrooms, forced, lb. ...	1 0 0 0
" Jersey, per lb. ...	0	3	0 4	" outdoor, lb. ...	0 4 0 6
Beet, red, doz. ...	0	6	0 0	Mustard and Cress, pint.	0 2 0 0
Brussels Sprouts, sieve ...	1	6	2 0	Onions, Dutch, bag ...	4 0 4 6
Cabbages, tally ...	3	0	5 0	" English, cwt. ...	5 0 0 0
Carrots, doz. bnchs. ...	2	0	3 0	Parsley, doz. bnchs. ...	2 0 0 0
Cauliflowers, doz. ...	1	0	2 0	Potatoes, cwt. ...	3 0 5 0
Celery, bundle ...	1	0	0 0	Shallots, lb. ...	0 2 0 3
Cucumbers, doz. ...	1	6	3 0	Spinach, bush. ...	1 0 1 6
Endive, score ...	1	6	0 0	Tomatoes, English, lb. ...	0 2 0 5
Herbs, bunch ...	0	2	0 0	Turnips, doz. ...	2 0 3 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch	1	6 to 2	6	Maidenhair Fern, dozen	
Carnations, 12 blooms ...	1	0	3 0	bunches ...	4 0 to 8 0
Cattleyas, doz. ...	9	0	24 0	Marguerites, doz. bnchs.	2 0 4 0
Chrysanthemums, dozen				" Yellow, doz. bnchs.	2 0 4 0
blooms ...	1	0	3 0	Odontoglossums ...	3 0 4 0
Eucharis, doz. ...	2	0	3 0	Roses (indoor), doz. ...	2 0 4 0
Gardenias, doz. ...	1	0	2 0	" Red, doz. ...	1 0 2 0
Geranium, scarlet, doz.				" Safrano, doz. ...	1 6 2 0
bunches ...	6	0	9 0	" Tea, white, doz. ...	1 0 3 0
Lilac, white, bunch, ...	4	0	6 0	" Yellow, doz. (Perles)	2 0 4 0
Lilium lancifolium album	1	6	2 6	" English, La France,	
" rubrum	1	6	2 6	doz. ...	1 0 2 0
" various ...	2	0	3 0	Smilax, bunch ...	2 0 4 0
Lily of the Valley, 12 bun.	6	0	15 0		

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12	0 to 24	0	Foliage plants, var., each	1 0 to 5 0
Arbor Vitæ, var., doz. ...	6	0	36 0	Geraniums, scarlet, doz.	6 0 10 0
Aspidistra, doz. ...	18	0	36 0	" pink, doz. ...	8 0 10 0
Aspidistra, specimen ...	15	0	20 0	Hydrangeas, white, each	2 6 5 0
Azaleas, various, each ...	2	6	5 0	" pink, doz. ...	12 0 15 6
Boronias, doz. ...	20	0	24 0	" paniculata, each	1 0 3 0
Cannas, doz. ...	18	0	0 0	Lilium Harrisii, doz. ...	8 0 18 0
Crotons, doz. ...	18	0	30 0	Lycopodiums, doz. ...	3 0 6 0
Dracæna, var., doz. ...	12	0	30 0	Marguerite Daisy, doz. ...	8 0 10 0
Dracæna, viridis, doz. ...	9	0	18 0	Mignonette, doz. ...	8 0 12 0
Erica, various, doz. ...	8	0	18 0	Myrtles, doz. ...	6 0 9 0
Euonymus, var., doz. ...	6	0	18 0	Palms, in var., each ...	1 0 15 0
Evergreens, var., doz. ...	4	0	18 0	" specimens ...	21 0 63 0
Ferns, var., doz. ...	4	0	18 0	Roses, doz. ...	6 0 18 0
" small, 100 ...	4	0	8 0	Stocks, doz. ...	8 0 12 0
Ficus elastica, each ...	1	6	7 6		



One of the Great Dead, and His Life Work.

SOONER or later we all of us must leave the place that has known us so long, leave our work completed or uncompleted, as the case may be. And the thought that must come home vividly to many of us is this, "Have we done anything worth doing in our lives? Do we

leave any memorial behind us? Are others better and wiser because we lived?"

If we are straightforward, the answer should make us wince. With the exception of our own near relatives, who will miss us when we are called? We may have been upright men trying to do our duty, if even in only a limited sphere, but we have made no great mark in the world's history. This is reserved for the few—every generation gives birth to some who stand by their innate ability, by their genius, or by their immense powers of application, head and shoulders above their fellows. They die, but their name perishes not; they stand as monuments of real greatness. They have achieved two objects—their life work, which they have done unflinchingly; and their example, which unconsciously they have set before the world.

Some of the greatest work in this world is done silently and secretly, "comes without observation." We see the results, but we know little or nothing of the patient toil, the weary plodding, the frustrated and often deferred hopes. We should not understand the methods adopted to gain the desired end, even if they were explained to us, and it is only because the outcome is so patent that we are able to grasp it.

Full of years and of honour has just passed away from us one of the great ones of this century; his work will last to the end of time. A life of eighty-six years is a long one, and it was a life of active industry. Born the son of a country gentleman, John Bennet Lawes of Rothamsted, Herts, had all the advantages of an excellent education—Eton, Oxford, London. How many lads have had the same advantages? how few have put them to such good uses? Left early his own master, and with plenty of money, he used that time and that money in the pursuit of knowledge—knowledge that could only be gained by hard and laborious toil.

As an agricultural chemist John Bennet Lawes had no superior—no equal. Fancy beginning experiments on plant life in 1834 and continuing them up to 1900. Is not that perseverance? Bringing a shrewd practical mind to bear on his work, who can assess its value? He caused a perfect revolution in the science of manuring. Call it a science? Yes; a science of the deepest importance to mankind. We are placed in this world, we have to sustain life by food, and to get that food for our quickly multiplying generations we must increase the methods of production, and anyone who shows us how that is best done is a public benefactor. What of a man who has devoted his whole life to the subject, spared no expense, no personal toil? Talk about canonising hair-clothed saints and hermits, why this man's deeds shine far before theirs! Ah! well, the world does not always recognise its greatest men.

The great backbone of profitable farming may be summed up in one short word—"muck," and for long years, aye, for centuries, that "muck" meant the excrement of animals. They gave back to the land certain constituents of which they had robbed it. Well, there are other fertilisers. These remained to be discovered—or rather, perhaps, to be put into a form suitable for distribution. We suppose a man might sustain life on whole grain, but he sustains it better on meal which is more easily dealt with by his digestive organs. The same will apply to plant life. Dress with bone! How? Raw bone of irregular size and irregular distribution? No; that will not answer. How can the tiny rootlets derive any benefit from a shankbone? But let that bone be dissolved, reduced to powder more or less fine, and the plant has a chance. How is this reduction to come about—with a hammer, or a complicated "devil with strong teeth?" Not quite so; there is a better agent than brute force. There is an acid (sulphuric) before which no bone can stand. There is much valuable lime in bone; this the acid precipitates.

We know there was a time when this island was full of many strange and savage beasts. They have disappeared before the gentler occupants of the present day, but they have left their traces behind. Who has not heard of coprolites, the petrified excrement of certain extinct saurians? These coprolites, reduced to their original form, have proved of immense value as manurial agents, and it is to this man Lawes we owe such a debt that we can never repay. He laid the foundation of this great industry—the manufacture of superphosphates. There is not a farmer nowadays, big or little, who is not a user of superphosphate in some form or other. We will not say anything about the limited companies who have earned excellent dividends by the manufacture thereof. Many of the shareholders are farmers who, in thus uniting, have provided themselves with an honest dressing at a minimum of cost.

But it was not alone as the father of "artificial" that Lawes obtained his renown. Had he done that and nothing else he would have been greater than a Cæsar or Alexander. Having land of his own, and an investigating mind, he gave himself and his time up to a series of experiments that ended only with his life. Nay, indeed, the experimentalist is gone, but he left adequate provision for the carrying out of these experiments still.

For fifty-seven years he and his friend, a young chemist (now old in the service), Sir J. Henry Gilbert, have worked together unceasingly. They have analysed soil, they have analysed water, they have grown crops of all sorts in all manners, with manures, without manures, with a certain manure solus with that manure in conjunction with others. Close and varied notes have been taken, and this for fifty-seven years. Talk of patience, these men have been the personification of it. And this they were doing for the pure love of knowledge and with a view to benefitting their brother agriculturists. Think of the outlay of money and time. It does not do to draw comparisons, but how many other young men born in a similar rank of life and with similar advantages, how many, we say, have so laid themselves out for the good of humanity? How many of their pleasures have been purely selfish if not worse?

Busy as this man was with his multifarious undertakings, he yet had leisure for his own peculiar duties, duties appertaining to his position as a landed proprietor, and he was full of wise and beneficent schemes for the good of his poorer neighbours. You generally find broad-minded, busy men have time for the great as well as small concerns of life. It is only the idle ones who have no leisure.

We have of late years heard a good deal of the allotment question. If land could not be got easily the strong hand of the law intervened and allotments were provided for those who demanded them. The parish of Harpenden must stand alone—334! and a club house in the centre, beer, "bacca" and books, comfort, recreation, convenience. This club is managed by the holders of the allotment gardens and has proved a permanent success. Sir John also started a labourers' co-operative and pig club, but these two were not of long duration. In his early days there were no facilities for small savers. He started savings banks and gave 5 per cent. interest, and, busy as he was, he took all the receipts himself as the people had more confidence in him than they would have had in anyone else. Presently the P.O. savings bank came into operation and took this burden off Sir John's shoulders. The schools both in his own village and at his chemical works found in him a firm supporter. Perhaps that term "firm supporter" is hardly the correct one—he was practically *the school*. And on his sugar plantation in Queensland he maintained a missionary teacher.

We want to particularise some features of his life work, to do this we must wait for another article. There is so much of interest and value that we feel sure our readers will be glad to know more than we have been able to tell in these few lines.

Work on the Home Farm.

The beautiful autumn we have been enjoying has been rudely broken by storms of wind and rain. The land will no more this year be in the workable condition of the past month, and horse labour will now be of a much heavier nature.

Farmers who stored all their roots before the rain are happily circumstanced, but notwithstanding the good price of Potatoes, the crop is not likely to be a very remunerative one; the yield of saleable ware is smaller even than we anticipated, and we have personal knowledge of an output of 12 tons from 5 acres, which at 75s. per ton, only amount to £45, or £9 per acre, a very poor return for all the labour and expense incidental to Potato growing. Dry weather at a critical time and attacks of disease later appear to be the chief causes to which this failure is attributable. The soil is a light sandy loam, and 8 cwt. per acre of salt were applied to the land before the Potatoes were planted. The salt seems to have done harm rather than good, and certainly did not ward off either drought or scab, results which the cultivator expected.

The ploughing of fallows is being carried on under favourable conditions, as the wetter state of the land helps the ridges to hold themselves up and present a larger surface to the action of the winter weather. Sheep have had an uncomfortable lair for the first time since going on Turnips. If they have plenty of room to run back upon they will not suffer. We do not like to keep sheep penned up too closely until after Christmas. Breeding ewes are now on rape with the ram; the latter should be changed again if convenient, as he will be removed altogether in another fortnight. Half a pound of Barley per head per day for another ten days may do much to reduce the percentage of barren ewes to be sold off fat next April.

Now that horses are on dry food they should have an allowance of linseed cake for the water trough, one cake each per week. A Swede Turnip each given in the evening is excellent for horses, and will help to keep them in health, but do not allow an unlimited quantity. Farm servants are very apt to run to extremes.

Cattle as brought up will require examining for insect pests, and it is a safe plan to wash all with Little's non-poisonous dip before bringing them into the yards. Warble and ringworm are nasty things to have amongst beasts, and prevention is better than cure, whilst these diseases can be more easily dealt with when the animals are in small enclosures.

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P. R. BARR.—A handsome golden-yellow Trumpet Daffodil of stiff, sturdy habit, very free blooming and of refined elegant form. Strong Flowering Bulbs, per 1000, 110/-; per 100, 12/6; per doz., 1/9; Extra Strong Selected Bulbs, per 1000, 160/-; per 100, 17/6; per doz., 2/6.

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Some sorts of Bulbs noted out Price Lists.	Per 100.	1000.
Hyacinths in fine mixture, for bedding or forcing	11 6	112 6
Hyacinths, single, first size, named, in several leading sorts, red, white and blue varieties, equal quantities, my selection	20 6	—
Single early Tulips, in the finest mixture	1 10	16 8
Double early Tulips, in the finest mixture	2 4	22 6
Duc Van Thol Tulip, mixed, excellent for early forcing	2 6	20 0
Sparaxis, in mixture	0 8	6 0
Triteleia uniflora, pure white, very fragrant	1 6	—
Ixias, in the finest mixture	0 6	5 0
Crocus, first size, in the finest mixture	1 2	10 0
Crocus, second size, in the finest mixture	0 7	5 0
Crocus, yellow, third size	0 6	4 2
Spanish Iris, in the finest mixture	0 7	5 0
Iris Kaempferi, mixed Japanese varieties	5 0	40 0
Iris sibirica, all sorts, in mixture	4 0	40 0
Monbretia crocosmiflora, orange scarlet	1 6	—
Narcis, Double Incomparabilis, primrose	1 6	14 0
Narcis, Single Van Sion, yellow trumpet	3 0	29 2
Narcis, Stella, white, yellow cup	1 4	12 6
Narcis, bicolor princeps	2 6	23 4
Gladiolus Marie Lemoine, cream, blotches purple	2 0	19 2
Gladiolus Brenchleyensis, deep scarlet	2 6	20 0
Scilla Sibirica, intense blue	1 8	15 0
Hyacinthus candicans (Galtonia) white	5 0	45 10
Snowdrops, Galanthus Elwesii, giant flowered	1 10	15 0
Tritoma Uvaria (Red-hot Poker)	14 6	—
Lilies, in fine mixture	12 0	120 0
Narcis, Pheasant's-eye (poeticus)	1 2	10 0
Single Anemone, The Bride, pure white	1 8	15 0
Single Anemones, in the finest mixture	1 8	15 0
Ranunculus, French varieties, mixed	1 0	9 0
Ranunculus, Persian varieties, mixed	1 0	9 0
Gladiolus Colvillei alba, pure white	1 2	10 0

250 Bulbs of the same kind will be charged at the 1000 rate; 25 at the price per 100; 6 at the price per 12.

Collection D for spring garden, containing 1330 Bulbs £1 1/-; half of this, 11/-.

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Journal of Horticulture.

THURSDAY, NOVEMBER 15, 1900.

Too Much Fruit.



THE fruit crops of this year have proved to be a popular theme, and the story of the fruit glut is becoming quite familiar by its repetition. The daily papers have

swelled their columns with dismal descriptions of fruit rotting under trees because it is not worth picking, and markets flooded with products that cannot find a customer, till the ordinary reader is reasonable in asking whether, after all, a good crop is not about the worst misfortune that a market fruit grower can have imposed upon him. But the question requires looking at more deeply than this, and I think we shall find that the quality rather than the abundance is responsible for the poor returns.

Let us take Plums as a case in point, for crops of this fruit have never of late years been heavier. In almost every district we hear the same story, and it is a dismal tale of the evils of over-supply. Laden trees, crowded markets, and poor returns are, or have lately been, the general cry, but very little has been said by the correspondents of the daily papers about variety, and upon this point the importance of the whole thing appears to hang. In almost every district where fruit is grown to any extent you will find a popular local Plum that is common to the locality, and consequently it is extensively cultivated. In Kent the common variety is known as the Kentish Bush Plum, a round purple fruit of fair quality, and suitable for preserve making and other purposes. In Worcestershire, I believe, the common Plum is the yellow Pershore; in another district it is something else, and so we go on. I have nothing to say against the Kentish Bush Plum as a fruit, and in seasons of moderate crops it is profitable to the grower, but it is not to be compared to the high-class varieties of modern introduction. Its accommodating character has led to its being largely planted in the past, till now, in seasons of heavy crops, there is such an abundance of this second-rate

During FIFTY-TWO YEARS the "JOURNAL OF HORTICULTURE" has been written by Gardeners for Gardeners, and in its principles, its practice, and its price it still remains the same. One alteration is perhaps, however, necessary. Our modern methods of production have rendered the price old-fashioned, and hence in order to meet the wishes of the present generation of Gardeners the "JOURNAL OF HORTICULTURE" will hereafter be sold for TWOPENCE instead of Threepence.

It will pay you well to send direct to the only manufacturer of all Garden Sundries, C. E. WEST, Roundhay, for Catalogue, who delivers all goods free. Orchid Culture 3rd Edition, postage 3d., gives full particulars of cultivation of Orchids.

fruit that the price of much better varieties is brought down in consequence.

Hardy local Plums, as a rule, are great bearers in their own districts, and seasons that are favourable for high quality varieties are infinitely more so for those of second-rate character. I do not think we have got too many Plums, and seasons of heavy crops are counter-balanced by those of lighter returns; but waste is pitiable as well as unprofitable, and it is possible that if we could do away with a large portion of these common varieties of Plums, and replace them with high quality sorts, not only would consumers buy them more readily, but we should hear less, in seasons of plenty, of fruit rotting under the trees because it does not pay to pick.

The same thing may be observed as regards Apples. This season of plenty may cause some to wonder whether it is worth while planting any more; but there need be no hesitation so long as the trees put in are of the right varieties. Twelve and fourteen shillings per cwt. for culinary Apples is not a bad price to get in a season like the present, and yet this was the rate at which Apples were selling in a certain district where orchards are so numerous that pigs were being fed with the fruit. The reason is not very far to discover. The orchards attached to farms and small holdings are ancient institutions, the origins of which are obscure. Here and there may be found a good Apple; but there are many very inferior, small, scrubby, nameless, and worthless. The trees are laden with them, and the grower attempts to sell them. He may succeed, but it is at the purchaser's own price, and the unfortunate part of it is that the price of better varieties is affected by the glut of rubbish. The rank and file of consumers buy these Apples—that would be dear at any price—because they are cheap, and if they were not in the market at all they would purchase the better quality produce. There was a certain grower who conceived the idea some few years ago that good fruit would find a sale in his district, and he planted a number of young bush trees. They are now in good bearing, and the results speak for themselves. He can sell every Apple he produces without going half a day's journey from his home, and at prices which pay him well, in spite of the glut.

What deductions can we draw from it? Simply this: that if all the rubbish in the way of Apples could be banished from our orchards entirely, and be replaced with high-class varieties, the consumer would get a better and cheaper article (though he might pay a little more for it), and the grower would not have his market hampered and blocked by so much that is worthless. I am inclined to wonder whether this happy state of affairs will ever be, for the subject has been long under discussion. Only time, I think, will weed out the worthless forms and leave but the best, because an Apple tree, particularly a poor one, has got a strong constitution. So long as it flourishes and bears it is held sacred, no matter how inferior and worthless the fruit may be, and so these wretched Apples remain, and will, I think, remain as long as a spark of vitality is left in them, to encumber the earth and hamper the efforts of those who are trying to make Apple growing profitable.

Another generation will reap the benefit of the present-day agitation against the culture of inferior forms of fruit, because, fortunately, there is not much of it being planted now. Most of the young trees are of good recognised varieties, and they only want the care of the cultivator to induce them to produce fruit worthy of their reputation. As one by one the ancient worthless Apples follow the course of nature (we cannot hope to persuade growers to root them out), there will be a better class of fruit left, and let us hope that rubbish among Apples, which is the stumblingblock of fruit growers of to-day, will be unknown. This season of a great fruit harvest, with its accompanying evils, teaches many lessons, and one is that, while we have as yet not enough of the highest quality fruit, we have far too much of the inferior article. Good fruit can be cheap to the consumer and yet profitable to the producer, but inferior produce is neither in years of plenty.—G. H. H.

Preparing Ground for Onions.

THE Onion is rightly regarded as a most important crop, and everyone who cultivates vegetables includes the Onion. No matter how indifferently grown the crop always proves serviceable, even if the bulbs are so small that they can only be used for pickling. Small Onions for this purpose can, however, be grown on soil which is rich enough to produce large bulbs if the seed is sown thickly and little or no thinning resorted to. The aim of most cultivators is, however, to grow large Onions, size and good shape not only being appreciated, but also indicates good culture. The foundation of success in high-class cultivation of Onions lies in the thorough preparation of the soil, and as the ground where the crop is intended to be grown should be in excellent condition by February, if seed is sown in the open, it is very important that the work of trenching and manuring for the purpose of bringing the soil into good heart should be undertaken now. Even if outdoor sowing in spring is not practised, that of sowing in boxes under glass and planting out in April being adopted, it is still imperative that the improvement of the rooting medium should now be commenced.

Unless the ground has been previously trenched and liberally manured the best method is to bastard trench, as this does not involve burying a fertile top spit and bringing a hungry subsoil to the surface. Any ordinary soil which is not absolutely too stiff and retentive may be rendered suitable for Onions. Stiff soils can in time be brought into excellent condition by draining the subsoil. In the process of bastard trenching break up the subsoil below the two upper layers or spits, and on this place a thick layer of mixed farmyard manure; pig manure, night soil, or cow manure may alone be used. They are excellent for light soils, affording rich, substantial, and cooling nutriment. Another layer of manure may be introduced between the first and second spit. The surface layer of soil may be left somewhat rough for the winter. In dry weather in February add a dressing of dried fowl dung. Apply about a hundredweight to a square rod, forking it into the soil, and breaking up the surface spit. Also work in some dry soot and wood ashes previous to sowing in February or March and planting in April. Having made the soil rich with natural manure there is less need of adding chemical manures, but a dressing of superphosphate, 3 lbs. to the square rod, before sowing or planting will act beneficially, followed by light applications of nitrate of soda during growth at the rate of $1\frac{1}{2}$ lb. to a square rod in May. Liquid manure made from various animal manures is excellent for stimulating growth.

The largest sized bulbs are produced from autumn sowings and from plants raised from sowing seed in boxes in February. Both these methods give plants which can be planted out in April on ground prepared as previously recommended. The latter method is best adapted for choice and valuable varieties, as there is more certainty of the seed germinating. A gentle heat only is necessary. Sow in moist, light soil in drills. When the seeds germinate elevate the box close to the glass to keep the seedlings sturdy, and gradually harden to the open air for planting.—E. D. S.

Clematis grata.—This is a decided acquisition to the late flowering Clematis, as it possesses all the requisite characteristics to insure its popularity when it is better known. It is a semi-scandent shrub, and is especially suitable for a low trellis or wall. The flowers are pure white, a little over an inch across, and consist of four narrow strap-shaped petals, which are recurved at the ends. They are borne in small terminal and axillary panicles, which spring from nearly every joint of the growths; shoots a yard long, with flowers on their entire length being common. It commences to bloom in September, and continues until spoilt by frost. The leaves are composed of from three to five leaflets, which are dark green and shining, firm in texture, and have very prominent veins. It is hardy enough in the London district, and would probably be so much farther north.—C.



Cypripedium Dora Crawshaw.

DURING the Chrysanthemum campaign Orchids are not, as a rule, exhibited at the Drill Hall in large numbers, but the meeting held on the 6th inst. was an exception, for these plants were comparatively numerous. Not only was this the case, but they were of excellent quality. The Orchid Committee of the Royal Horticultural Society, however, recommended only one first-class certificate, which was for *Cypripedium Dora Crawshaw* (fig. 117), contributed by Messrs. Charlesworth & Co., Heaton, Bradford. It is a hybrid resulting from a cross between *C. bellatulum* and *C. Charlesworthi mosaicum*. The flower is particularly refined. The dorsal sepal rich purple rose with deeper venations, while the pouch is claret with faint touches of white showing in places. The petals are deep claret on the upper half and paler below. The whole flower has the appearance of having been varnished.

Vanda cœrulea.

This is a charming plant when at its best, the deep blue of its flowers and their fine contour always commanding attention. It is often spoilt by being kept continually growing in a hot moist atmosphere, and it is not too much to say that it is quite impossible to grow it well under such conditions. Coming from a considerable altitude in the Khasia Hills, it is not likely to relish the same treatment as plants from low-lying jungles and swamps, but in a healthy cool atmosphere with abundance of air the plants grow stoutly and well. Receptacles of small size are best, as the roots never seem so happy as when growing one over the other in a crowded state, and overflowing, as it were, into the congenial moist atmosphere.

A Record Group of Cypripediums.

QUITE a modest looking little group of *Cypripediums* was that put up by Mr. H. J. Chapman, gardener to R. I. Measures, Esq., of Cambridge Lodge, at the Drill Hall on the 23rd ult. But anyone who looked closely into it would see at once that it was a very remarkable one, quite unique in fact. In the first place, it contained five distinct hybrids from the very rare *C. Fairrieianum*, including the pretty and delicate *C. Reginae*, the only plant in existence, it is said, and the result of crossing *C. Leeianum* and *C. Fairrieianum*.

C. Niobe is not always a success, and I have seen Mr. Chapman's plants in better order than this, but it is always beautiful. This, as is evident by the flowers, is a cross between *C. Spicerianum* and *C. Fairrieianum*. The other *Fairrieianum* crosses were *C. F. L. Ames* in which *C. tonsum* had a part, *C. H. Ballantine* from *C. purpuratum*, and the oldest of all, *C. Arthurianum*, which shows quite plainly its parentage on the male side, viz., *C. insigne*. It is certain that never before have so many *Fairrieianum* crosses been shown on one day by one exhibitor. Besides these, there was a nice plant of *C. insigne Sandersæ*, the first artificially raised one that has ever flowered. Although the plant was weak the flower was decidedly a good one, and it has flowered in a little over four years from the date of sowing. A finely coloured hybrid, too, is *C. Vidor*, the result of crossing *C. Charles Canham* and *C. Harrissianum superbum*. It is interesting to note how plainly the median line on the petals is shown, its relationship to the old *C. villosum* being quite apparent, though the colouring is quite different, an intense purplish rose, only too rare in *Cypripediums*. This obtained a separate award of merit, and the group a silver Banksian medal, both of which were richly deserved.—H. R. R.

Notes on Figs Under Glass.

THERE is this great advantage in early forced trees in pots that their fruits can be had at a time when choice kinds are not plentiful. Trees started now will ripen the first crop late in March or early in April. Success depends on suitable varieties, the thorough ripening of the wood, and their not having carried late crops. Early Violet and St. John's, or Pingo de Mel, are two good Figs for hard forcing in pots, as they do not cast the young fruit like many other varieties, and make sturdy short-jointed shoots, so that they are compact in habit, bear freely in a comparatively small space, and ripen quickly. Well prepared trees in 10 or 12-inch pots afford a good supply of fruit.

Ripened wood is imperative. They succeed well in low pits on a mild hotbed of fresh leaves, the chief points being to place the trees close to the glass, but not touching, and force slowly. When Fig trees in pots are forced year by year they start with little excitement at the usual time, and bear excellent crops. The trees should be sprinkled twice a day in bright weather, employing fire heat to maintain a temperature of 50° at night, 55° by day, and with sun heat 60° to 65°. The heat about the pots should not exceed the latter temperature at the commencement, and during the early forcing stages supply little water at the roots. The growths should be pinched at about the fourth leaf, as this concentrates the nutriment on the fruits, and they swell correspondingly.

For affording fruit in late April or early in May, and from that time to September, no variety is more useful than Brown Turkey. It is still the best all-round Fig for pots or planting in restricted borders, and its second crop is as good as the first. It should not be started before December, or about a month later than Early Violet and St. John's, as it will not bear the hard forcing of those varieties, which are also better for not being started before December, when they will ripen the fruit in April, and the quality is better. White Marseilles is an excellent Fig, and a good companion to Brown Turkey, but it does better planted in restricted borders than in pots, therefore the small White Ischia may be grown, as it forces well and the flavour is delicious. Black Ischia also forces well, but it is comparatively inferior in quality to the white.

In the case of early forced planted out trees, the varieties Brown Turkey and White Marseilles are unrivalled for restricted borders. Negro Largo is also an excellent Fig when cramped at the roots, and in its second crop perhaps the best of all. Untie the trees from the

trellis, and prune them. This consists in cutting back those shoots that have reached the extremity of the trellis or limit, to where the succeeding shoots start. Remove any elongated spurs, reserving such as are short-jointed and fruitful, thinning the growths where too crowded, retaining a proper amount of fruitful wood on every part of the tree. The house should be thoroughly cleansed, washing the woodwork with soft soap, water, and a brush, limewashing the walls with quicklime and sulphur, washing the trees with soapy water, and afterwards dressing with an insecticide. In securing the trees to the trellis, allow room for the growth of the branches. Fork the surface of the border slightly, remove the loose material, and apply a top-dressing of turfy loam, with a fourth of well decayed manure intermixed, and a similar amount of old mortar rubbish, not supplying more than a couple of inches thickness. Ventilate freely at all times, except when frost prevails, which is best excluded, or employing no more artificial heat than is absolutely necessary.—GROWER.

Ledums.—*Ledum thymifolium* and *L. buxifolium* are dwarf shrubs, dense in habit, and form admirable edgings. They are very pretty when in bloom, the blossoms being pink in the bud, and expanding of a clear white. The variegated form of *L. thymifolium* makes a handsome edging, little more than 6 inches high. *L. latifolium* is a fine shrub from 1½ to 2 feet high, and its balls of white bloom are remarkably pretty in April and May.—J. C.



FIG. 117.—CYPRIPEDIUM DORA CRAWSHAW.

NOTES & NOTICES

Weather in London.—On Saturday and Sunday there was a decided change from the weather of the previous days; it being both drier and cooler, with a little sunshine. On Monday it turned very wet and dull, no sunshine being registered, the same conditions prevailing on Tuesday. Wednesday opened fairly bright, but with indications of rain.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, November 20th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "Mistakes in Fruit Culture" will be given by Mr. Geo. Bunyard, V.M.H., at three o'clock. The following dates have been fixed provisionally for meetings in 1901:—January 15th, 29th; February 12th, 26th; March 12th, 26th; April 9th, 23rd; May 7th, 22nd, 23rd, 24th (Temple); June 4th, 18th; July 2nd, 16th (Conference on Lilies), 30th; August 13th, 27th; September 10th, 24th; October 10th, 11th, 12th (Crystal Palace), 15th, 29th; November 12th, 26th; December 17th.

The Value of Timber.—Forests of shady trees mitigate climatic conditions, and there is no doubt that they attract rain showers. Leaves generate oxygen and absorb obnoxious gases, forming a natural antidote to grievances of crowded cities. Shady trees prevent sunstroke, and also prevent ophthalmia, the curse of many southern climates. Where there are no trees, the glare of the sun on the sand is equal to its shining on snow.

Insects and Prehistoric Forests.—It is not unlikely (writes Professor N. S. Shaler in the "Forester") that some of the curious alterations in the distribution of forest trees which geologists have recognised may have been due to the development in former ages of the gypsy moth or other like destructive species of insect. Thus in the early Miocene Tertiary Europe was tenanted by a host of species closely akin to those that now form our admirable American broad-leaved forests. The Magnolias, the Gums, and the Tulip Trees were as well developed in Europe as they are in this country. Suddenly all these species disappeared from the Old World. There are evidences to show that the change was not due to an alteration in climate. It is a reasonable conjecture that that alteration was brought about by the invasion of an insect enemy which may have been the ancestor of the gypsy moth.

Truffle-Hunting.—There is an interesting illustrated account in the November "Strand" of "Truffle-Hunting with Pigs and Dogs." The writer describes a hunting-ground near Carpentras, in the Department of the Vaucluse, France, as "a plantation of small but bushy Oak trees." This is how the hunting proceeds:—"The pig made for the plantation, selected a tree, and began digging. With her snout she quickly made a large hole, scattering earth and stones right and left. The farmer, who is intently watching the operation, stoops down quickly, gives the animal a tap on the snout, and puts a few acorns before her, then fishes out of the hole a Potato-like bulk nearly the size of a hen's egg, deep purple in colour, and covered with little warts; inside it is grey, veined with white like marbles. This, we were informed, was a good specimen of valuable black Truffle." Pigs are passionately fond of Truffles, and the acorns with which they are supplied are a "sop to Cerberus" to prevent them from eating their food. The value of the "Diamant de la cuisine," as a French wit and gourmet calls the Truffle, has, we are told, wonderfully increased during the last forty years. They were sold before that period in the market at Carpentras for from four to five francs the 2 lbs., now the price ranges from twenty to forty francs for the same quantity. The increase in price has naturally given a great impetus to the Truffle-collecting industry. In former years thousands were left to rot in the ground, now every villager collects, and every nook is explored, yet the demand is well ahead of the supply. For a medium year the sale of Truffles in the Place for Carpentras from December to March amounted to two million francs. Certain kinds of Truffles are found in England, but, the writer says, they are of very inferior quality. On account of being much cheaper than the black Truffles, they can be bought at from 2s. to 3s. a lb. In Epping Forest false Truffles grow in large quantities above the ground. These are collected and sold to the small foreign restaurants.

Ben Cant Memorial Prize Fund.—The following additional contributions have been promised:—Mr. C. E. Shea, £1 1s.; Colonel Pitt, £1; Rev. H. B. Biron, 5s.; Mr. R. G. West, 10s. 6d.; the Rev. H. A. Berners, £1.

Examination in Horticulture.—The Royal Horticultural Society will hold its next examination in horticulture on Wednesday, April 24th, 1901. For syllabus, apply to the Secretary, R.H.S., 117, Victoria Street, S.W.

An Australian Colony of Vegetarians.—A colony of vegetarians is living on Tagula Island, a tiny bit of land in the Dutch archipelago, about 700 miles south-east from New Guinea and 1000 miles north-east from Australia. Under the leadership of a Methodist clergyman, the Rev. James Newlin, of Ohio, some seventy people sailed from San Francisco in 1890 for Hawaii. They believed that a higher plane of Christianity was to be reached by a vegetarian diet and freedom from contamination with degenerate mankind, so they gave up their friends and homes in the Eastern States. Tagula Island was finally chosen for their colony, and the fifty good-natured natives there welcomed the newcomers. There have since been accessions to the colony of people from England, Australia, and America.

Royal Botanic Society of London.—Four lectures on the "First Principles of Colonisation and Plantation," by Mr. R. Hedger-Wallace, formerly of the Department of Agriculture, Victoria, and the Government Horticultural College, Melbourne, are to be delivered in the Museum at the Gardens on Friday afternoons, November 16th, 23rd, 30th, December 7th, at three o'clock. The chair at the introductory lecture will be taken by Lieut.-General Sir Andrew Clark, G.C.M.G., &c., Agent-General for Victoria. The object of this short course is not an attempt to teach in this country the practical details of cultivation requisite for the successful and profitable cultivation of the plants named, but rather an attempt to indicate the various factors that should be determined before anyone either engages personally in the cultivation of such commercial plants in any British colony or dependency, or invests capital at home, in such ventures.

Chrysanthemums at the Exhibition.—The Paris correspondent of "Truth" says:—"As to hands we are, compared to Chinese, Japs, and Cingalese, miserably inferior. We are a handless race, and the vaunted Anglo-Saxon the most so. Who else but the Anglo-Saxon would ruin beyond redemption the fine hand of woman by setting it up to scrub and freestone hall-door steps? What barbarism under the mask of cleanliness! As to gardeners, the Japanese have left all others out of sight. We had two of the Mikado's head gardeners to give lessons in Chrysanthemum training to those of the city of Paris. They had willing and skilful pupils; but no European could devote to flower culture the patience, perseverance, and resource of the Jap. A Chinese might, but he would go in beaten tracks. One of the head gardeners spent eleven hours a day for weeks in bringing up a Chrysanthemum in the way it should go. He coaxed and forced it; he studied and modified the soil as a French *chef* might the raw materials for a feast, and he produced a flower so wondrous that the sight of it took one's breath away—a plant covered with flowers that had all the caprice, daring fancy, amusing *imprévu* of bonnets fresh from a Paris milliner's fingers."

A Cherry Sensation.—Count Boni de Castellane has paid 10s. each for the first Cherries in the Paris market this year. But inquiries in the West End disclose the fact that preparation has been made during the summer to furnish the tables of the very rich this winter with tiny fruit trees bearing the delicious burden of summer or early autumn. Said a Regent Street fruiterer to an "Express" representative, "No dinner will be really smart this winter unless dwarf fruit trees are used for ornament and dessert. The Cherry tree is the favourite, and as it comes to the table it is from four to five years old, and not above 3 feet high, with compact foliage, and all agleam with big, red, ripe Cherries. Every day trees are taken into the hothouse so as to have a constant supply of fruit in midwinter. We arrange it so that at Christmas one tree will be loaded with ripe fruit while another is in blossom. While Cherries are the favourite forced fruit, yet there is some demand for red Apples, Pears, and Peaches. The trees are treated in the same way, and only a small quantity of fruit is allowed to mature. The Parisian fruit-forcers are counting upon a heavy demand from London for their peculiar product. The prices will be very high. As for the Cherries bought by Count de Castellane, they were the first in the market, and he wished to make a sensation. The next day they sold for only 6s. apiece.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Liverpool Horticultural Association.—After an absence of twelve months the Liverpool Horticultural Association have renewed their Saturday lectures. Liverpool contains many notable places, and the interest the Corporation take in gardening matters should be sufficient stimulus to the association to keep everything of the highest importance before its subscribers. The new attempt brought a good attendance, Mr. T. Foster, chairman of the association, presiding. The subject, "Soils, and Their Treatment," was dealt with in the most practical manner by Mr. R. G. Waterman of Woolton, who took his hearers through the various phases of draining, burning, shelter, the various uses of manures and rotation of crops. The discussion was good, and the usual motions of thanks passed.—R. P. R.

Woolton Gardeners' Improvement Society.—The Rev. Canon Spooner presided at the second meeting of the Woolton Gardeners' Society, when that popular lecturer, Mr. R. W. Ker of the Aigburth Nurseries, came before the society. The subjects he chose were "Accounts of the Sweet Pea Conference," and "My Russian Journey." He said that undoubtedly the best exhibits at the Sweet Pea Conference were those put up in bunches and not overlaid. In his account of his trip to Russia his hearers could not fail to derive many edifying lessons on travel. On arriving at St. Petersburg to adjudicate the only two countrymen whom they encountered were Mr. Arthur Veitch and Mr. Sander. They were placed in charge of a military officer, who conducted them round. Of the show they were all loud in their praises. The lecture concluded with some magnificent slides relative to the beautiful bedding carried out in the public gardens at Berlin.—R. P. R.

Reading Gardeners' Mutual Improvement Society.—At the last fortnightly meeting of the Reading and District Gardeners' Mutual, Mr. C. P. Cretchley, of the Honey's Gardens, Twyford, and formerly of the Royal Gardens, Kew, gave a very interesting paper on "Ferns, Their Culture and Classification," treating the subject under the following headings: General appearance and character, flowering, spores, character and germination, culture, sowing, stove varieties in pots, baskets, rafts, general ornamentation, greenhouse varieties, propagation, shading, insect pests, classification. A discussion followed in which Mr. Stanton, Dr. Stansfield, Messrs. Powell, Blake, Bryant, Neve, Barnes, Burfitt, and Fry took part. A very unusual but interesting exhibit was made by Mr. Stanton, Park Place, Henley-on-Thames, who staged blooms of *Aristolochia tricaudata*, Mexico; *A. elegans*, Brazil; *A. gigas* Sturtevant, Guatemala; and fruits of *Diospyros Kaki*, Japanese fruit, and Guavas. The other exhibitors were Dr. Stansfield, Fern *Scolopendrium crispum grande*; Mr. Exler, The Redlands Gardens, Lily of Valley; Mr. F. Lever, Hillside Gardens, collection of Zonals. A vote of thanks was accorded the lecturer and the exhibitors. Two new members were elected.

Bristol Gardeners' Mutual Improvement Association.—The fortnightly meeting was held at St. John's Parish Room, Redland, on Thursday, November 8th. Mr. G. Harding, of Clifton, lectured upon the "Migration of Birds." He observed that bird migration was world-wide in its operation and influence, and gave some details respecting the time of arrival and departure of the chief visitors to our shores. The reasons for this migration were for nesting purposes, need of food, and an occasional impulse to travel. He also gave much information as to the great power of endurance of birds on the wing, the high altitudes at which they travel during the daytime, the swiftness of their flight, and the large numbers in which the various tribes journey from one continent to another, quoting largely from statistics collected by the lighthouse-keepers on our coasts. He concluded his lecture by claiming that we could not exist without the assistance of these feathered friends, who derived their sustenance from the insect life around us, and who should, with very few exceptions, be efficiently protected. Mr. Harding was accorded the hearty vote of thanks of the meeting for his valuable lecture. Prizes for six dessert Apples were awarded Messrs. Gardner, Marsh, and McCulloch, and for six dessert Pears to Messrs. Skinner, McCulloch, and Orchard. Certificates of merit went to Mr. E. Poole for collection of Fungi, and Mr. Maddocks, two vases of Violets.

Royal Meteorological Society.—At the ordinary meeting of the society, to be held, by kind permission of the council, at the Institution of Civil Engineers, Great George Street, Westminster, on Wednesday, the 21st inst., at 7.30 p.m., the following papers will be read:—"An Improved Mounting for the Lens and Bowl of the Campbell-Stokes Sunshine Recorder," by Richard H. Curtis, F.R.Met.Soc.; "Weekly Death Rate and Temperature Curves, 1890-1899," by W. H. Dines, B.A., F.R.Met.Soc.; "Seasonal Rainfall of the British Islands," by Henry Mellish, F.R.Met.Soc.

American Rose Society—Point-judging Standards.—The executive committee of the American Rose Society met in New York for the purpose of revising the schedule of prizes for the March show next year. This was accomplished as regards the regular classes, which remain much as last year, but important alterations and additions were made. A gold challenge medal will be offered for the display of novelties of the four years preceding the date of the show, and a handsome challenge piece is instituted for gardeners. Important additions are made in the classes for pot plants, and prizes are to be offered for the best individual bloom in several named classes for Hybrid Perpetual, Hybrid Teas, and Teas. Perhaps the most significant action was in regard to a scale of points by which the judges at the March show shall work. Two distinct scales were adopted as follows for competitive classes:—Size, 15; colour, 20; stem, 20; form, 15; substance, 15; foliage, 15. Total, 100. For judging novelties entered for certificates:—Size, 10; colour, 20; stem, 15; form, 15; substance, 10; foliage, 15; fragrance, 5; distinctiveness, 10. Total, 100.

Beckenham Horticultural Society.—The members of this society met on Friday evening last under the chairmanship of Mr. T. W. Thornton, F.R.H.S., to receive a lecture on "Cacti of the United States of America and of Mexico, and How to Grow Them," by Mr. G. A. Blogg, Secretary National Cactus Society, illustrated by lantern views. The chairman having introduced the lecturer with a few well chosen remarks, the lecturer, as might be anticipated from his long experience of forty-five years with Cactaceous plants, gave an exhaustive account of them. Their geographical distribution, the treatment of imported plants, raising from seeds, cuttings, and offsets, were all treated explicitly. The conditions of their general culture would be a porous soil, good drainage, a stove temperature with slight shade from extreme sun in summer, and plenty of atmospheric moisture; a reduction of moisture at the root, and a dry atmosphere when ripening the growth, after that, to rest them, a greenhouse temperature would suffice, with full exposure to all sunlight. Pieces of slate should be placed beneath the roots to protect them from the worms. The lecturer advised all who had not seen the gorgeous display of *Phyllocactus* made by Messrs. Veitch & Sons at the Temple Show, not to again lose the opportunity, and directed the attention of the audience to a picture placed on the screen showing a corner of the Penge Recreation Ground where many Cactaceous plants and other succulents formed a part of the subtropical bedding. The thanks of the society are due also to Messrs. Cannell for the exhibit of Cacti, a lesson itself in staging, so smart and clean were they, also a collection of their wonderful vegetables.—T. C.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.	
		At 9 A.M.		Day.	Night	Rain.	At 1-ft. deep.	At 2-ft. deep.		At 4-ft. deep.
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
November.										
Sunday.. 4	N. E.	deg. 49.7	deg. 48.7	deg. 52.6	deg. 48.8	ins. 0.02	deg. 52.7	deg. 53.1	deg. 47.5	
Monday.. 5	S. S. W.	50.6	49.8	56.2	49.3	0.05	52.5	53.1	48.3	
Tuesday 6	S. E.	52.7	50.8	56.6	50.5	0.12	52.5	53.1	41.8	
Wed'sday 7	S. W.	49.9	48.2	51.0	47.5	0.13	52.2	53.1	39.5	
Thursday 8	S. S. W.	44.9	41.8	54.8	39.1	—	50.3	52.9	32.1	
Friday .. 9	S. S. W.	52.9	48.8	54.4	45.0	0.01	50.4	52.4	42.9	
Saturday 10	W. S. W.	40.0	37.9	48.9	35.1	—	47.9	52.1	25.9	
MEANS ..		48.7	46.6	53.5	45.0	Total 0.33	51.2	52.3	39.7	

Cold, misty, showery weather prevailed during the first part of the week, the latter part being mild and spring-like, especially Saturday, which was very bright and warm.



Forthcoming Shows.

As is usual at this time of the year we have received numerous intimations of Chrysanthemum shows which are to be held during the coming season. Space, however, can only be found for mentioning those that have been advertised in our columns. We append the dates of such fixtures, with the names and addresses of the respective secretaries:—

- Nov. 15, 16.—PARKSTONE.—T. K. Ingram, Parkstone Nurseries, Dorset.
 „ 16, 17.—BOLTON.—Jas. Hicks, 1, Beckett Street, Bolton.
 „ 16, 17.—BRADFORD.—R. Eichel, Eldwick, Bingley.
 „ 16, 17.—HUDDERSFIELD.—John Bell, Marsh, Huddersfield.
 „ 16, 17.—MACCLESFIELD.—W. Oldham, 153, Gt. King St., Macclesfield.
 „ 21, 22.—BIRKENHEAD.—W. H. Yeo, 3, Clarendon St., Birkenhead.
 „ 22, 23.—LEAMINGTON.—Arthur J. Nichols, Leamington.

National Chrysanthemum Society—Floral Committee, November 12th

THERE was a large attendance of members at the Royal Aquarium on this occasion, and there were plenty of seedlings for their inspection. Messrs. Jas. Cooper, A. W. Tanner, G. Bean, C. Griffin, G. Penford, H. Stowe, G. Carpenter, H. Redden, J. H. Witty, and R. Owen, all submitted seedlings, but few obtained the coveted awards. The light was extremely bad, so that it was hardly possible to give correct descriptions as to colour. The following were the successful varieties:—

James Parker (C. Penford).—A fine Japanese flower, after the style of *Mutual Friend* in build and floret, the colour being a creamy white (first-class certificate).

Miss Nellie Southam (A. W. Tanner).—A really good incurved flower, of good size and well developed. The colour would be purple, with a slaty reverse, not unlike *Prince Alfred*, but a larger flower (first-class certificate).

Mrs. R. Darby (C. Griffin).—A large deep flower of the Japanese type, with long curling florets, in colour a bright amaranth, with a silvery reverse, a grand flower in every way (first-class certificate).

Henry Stowe (H. Stowe).—An incurved Japanese, deep and solid with broad florets, a pale lavender flower (first-class certificate).

There were a few other good novelties, which failed to secure any award, of which *Miss Florence Southam*, a true incurved variety, not unlike *Madame Darrier*; *Major Plumbe*, a yellow incurved Japanese, which was barely half open; *Miss Roberts*, another yellow with good curling florets; and *Arthur King*, an incurved bloom, staged in good form, but said to be too close to *Henry Ellis*; and *Madame Ferlat*, were the varieties selected by the committee to be seen again. The committee seemed rather hard on the single varieties exhibited, some of which were very pretty, but they failed to secure more than passing notice.

Overfed Chrysanthemums.

In the interesting article on the Warren House collection of Chrysanthemums (page 402), the paragraph which struck me as most opportune was that describing Mr. Gleeson's care in feeding his plants with what are known as artificial manures. It is a very strong idea of ours that more plants are spoiled each year by their too free use than by any other cause, more especially Chrysanthemums cultivated on the "big bloom" methods. For this reason we would like again to direct attention to the practice of the grower named, who certainly produces first-rate specimens of these grand flowers. What is the good of obtaining abundance of roots to be killed just when the flowers are opening, and what can one expect from gigantic wood and leaves if the same are hollow and soft? It appears to us that more attention should be paid to this matter. Any variety the blooms of which have a tendency to come coarse, or such as are liable to damp, may well have a plain diet, and will be sure to thrive better on it in the way of giving perfect flowers. More room than is often allowed the plants when growing should be afforded, and plenty of pot space, in the case of most Chrysanthemums. Then the growth will be perfected in its own natural way, aided, of course, by constant care in watering and a proper selection of flower buds, resulting at last in satisfactory blossoms.—S.

C. J. Salter.

WITHIN the past few years Australia has advanced by leaps and bounds in Chrysanthemum culture, and some of the raisers "down under" have been most successful. Amongst the most conspicuous of these is Mr. J. Pockett, who has on several occasions sent notes to the *Journal of Horticulture* that have met with much appreciation. One of Mr. Pockett's finest varieties was *Miss Nellie Pockett*, which is now seen in almost every collection. At the Drill Hall on Tuesday, November 6th, Messrs. W. Wells & Co., Ltd., Earlswood, exhibited a variety from the same source named C. J. Salter (fig. 118), for which the Floral Committee of the Royal Horticultural Society recommended an award of merit. This may be described as a pale yellow edition of *Miss Nellie Pockett*. It has similar refined incurving florets that though narrow build up a very full and handsome flower. For the photograph from which our illustration was prepared we are indebted to the courtesy of Mr. Wells.

Lord Ludlow.

IF Australian raisers had given us no other variety but this there would be ample grounds for valuing the efforts of our distant kinsmen in trying to improve this popular flower. It is a type in itself, and a good one. The long drooping florets incurve gracefully at the tips, just enough to give character to the flowers. These are large, and of handsome build; the colours, yellow with bronze stripes or splashes, are distinct and pleasing. In habit of growth it is one of the best, the foliage ample and sturdy. The sort is well adapted for the growth of show blooms as it is for training into a bush plant, and seems free from diseases and little ways that make not a few kinds difficult to grow. It should be among the first for cultivators to select when revising their lists.—H.

Wanted Dark-coloured Chrysanthemums.

YEAR by year new varieties are brought forward in increasing numbers, but with the combined efforts of the numerous raisers good deep crimson-flowered ones are not forthcoming. We have too many bearing such descriptions as "amaranth with silvery reverse," "deep red with yellow reverse," and so on. In nearly all instances there is an oversupply of the reverse. What we want is a crimson, of the *Madame Carnot* type of flower. This would indeed be valuable. Not a little was expected from the following varieties, all, however, in some way disappointing:—H. J. Jones, Hon. W. F. D. Smith, M. H. Martinet among the newer; and J. Chamberlain, General Roberts, and *Royal Standard* of those better known. We occasionally note an exceptional bloom of sorts like *Nyanza*, Wm. Bardney, or *John Neville*, yet for exhibition there is but one really fine crimson, and that is *E. Molyneux*.

William Seward is too small and subject to damp. *Jeanne Delaux* is gone out of cultivation, and therefore that grand old variety stands alone. When seen in perfection it is quite the most striking of any Chrysanthemum in cultivation, and is well worth any amount of pains to obtain it in such form. At *Bramley Park Gardens* *E. Molyneux* was lately noted in all its most gorgeous plumage, long and wide drooping florets of a rich crimson shade, and the blooms full to the centre. Through some cause many plants of this variety will not grow freely during the summer; the leaves become stunted and yellow. A change of stock is considered a remedy, but Mr. Paddon, who follows this practice yearly, has this season, curiously, from the same batch of cuttings two-thirds of his plants do badly in the way described. The most successful mode in our case is to root the cuttings—not large sappy ones—in December. These are grown on in poor soil and produce the first break in April. They are subsequently potted on until shifted into 10-inch pots, and three shoots allowed to grow. Not the first, but the second crown buds are secured from natural growth about the middle of August, and these invariably give excellent specimens. Being a gross grower it is not fed much with stimulants, and the flower buds push out from the leaves some 12 or 15 inches, a sure indication in the case of this variety that its blooms are going to open properly.

Possibly no finer half-dozen blooms of *E. Molyneux* have since been seen than those many old growers will remember about ten years back that were exhibited by Mr. McKenzie of *Linton Park*, *Maidstone*, and we recollect that they were produced from cuttings rooted in February, and then the furore caused by the introduction of another named above, Wm. Seward! But this variety must have deteriorated, for when first seen it had long, drooping partly twisted florets, and was a handsome, well-built blossom.

In the pages of the *Journal of Horticulture* last spring lovers of the autumn queen were told of a real "Crimson *Madame Carnot*," but it is somewhat surprising that this variety has been unheard of since. Is it lost? We hope not, for such a variety would be welcome indeed.

Master H. Tucker is fine in colour, but the florets are too short. *Pride of Stokel*, like its parent *Pride of Madford*, is over-inclined to incurve. President Lemaire, although rich in shade of colour, is too

small. Lord Cromer gives blooms with few petals, mostly quilled. John Shrimpton, G. W. Childs, Cullingfordi, all three varieties useful for cutting, will not do for exhibition; and so one might find some fault with all dark-coloured Chrysanthemums in cultivation, and thereby give sufficient evidence of the propriety of the heading of these remarks.—SPECIALIST.

Edwin Molyneux.

THE remarks anent this variety by "D. R.," page 402, are the cause of my present allusion to this Chrysanthemum. I quite agree with "D. R." that this variety has had an exceptionally long lease of life. Introduced in the year 1886 by Mr. Cannell, it has had fourteen years of unsullied life, and from its present appearance appears quite likely to go on some time yet. It would be folly to say that the blooms at the present time equal in size those staged by Mr. McKenzie at the N.C.S. Show held in the Royal Aquarium some years ago. These, I think, will be accredited as the largest yet seen by all who remember this particular exhibit. At the present time that magnificent colour which is the charm and fascination of the variety is quite equal to its best. Several blooms staged at the recent Portsmouth Show were marvels of colour production.

I well remember the tiny bloom that Mr. Cannell was in possession of at the N.C.S. Show in 1885, when he suggested the name, and a noted expert expressed his opinion that it was an old variety under a new name. This individual has had ample time to see the error he made when disparaging the then new introduction. It does seem strange that not one single variety has yet been obtained to compare with it in colour, or even to approach it, although thousands of plants have been raised from seed of it. The name of one single variety does not occur to me at the present moment but that has gone out of favour years ago that was introduced at or near the same time. Even Sunflower—1888—which was regarded as the finest yellow of its day, has long since almost disappeared. It may not be generally known that E. Molyneux is a capital variety to plant at the foot of a south or east wall, its habit and freedom of flower fitting it well for this object.—E. MOLYNEUX.

Comments on the N.C.S. Show.

ALL who saw the late show held in the Royal Aquarium will agree that it was a magnificent display of the autumn queen, and one to be envied by any society. I think it will also be generally accepted that the first prize exhibit of sixty Japanese blooms arranged in vases was the finest ever seen. I do not wonder at this being so when we consider the great improvement that has taken place during the last five years, or even in half that time, in the varieties cultivated now. The exhibit in question contained but two weak stands, even

if they can be thus termed. Mrs. J. Lewis was the weak point in the twelve varieties. For an ordinary class this might not have been thought so, still when one is used to seeing this variety more often from 8 to 9 inches in diameter and 6 inches deep, the specimens referred to must be regarded as weak. Pride of Madford was magnificent in its colouring, but narrow in diameter and thin in depth. Why does not the ordinary grower stage this variety in similar colour to the exhibit in question? The answer is not far to seek for those who are conversant with the details of exhibiting. Marvellous were the examples of Calvat '99; Le Grand Dragon, blooms of which measured 9 inches wide and as many as 7 inches deep; Phoebus, rich and full; and Miss Nellie Pockett were one and all quite even in build and perfect in contour. For years Edwin

Molyneux has not been seen in such perfection as here. Mons. Louis Remy is quite one of the best of yellow-flowered sorts when seen as here represented. Mrs. Barkley was not only of huge size, $8\frac{1}{2}$ by 7 inches deep, and such a colour!

Taking the Japanese blooms as a whole, arranged on the ordinary stands, it cannot be said that there was any improvement upon recent years in any form. The blooms were heavy, well coloured, and quite fresh; but one could not fail to note the absence of novelty or improvement in this section.

The ordinary show board does not lend itself to the display of merit in a blossom, and certainly not to an artistic mind. The time will come when such an adjunct will be banished from our autumn exhibitions, and a more rational method of displaying the blooms adopted.

In the incurved section a distinct improvement was manifest in the superiority of the blooms displayed, as compared with the last five years at any rate. Much fuller of petal, depth, and solidity characterises the present day varieties, of which there have been many useful additions of late. The contour, too, leaves but little to be desired in such blooms as those staged by Mr. Higgs. If we cannot secure representative speci-

mens of the Queens, the Princesses, and the Tecks as of yore we must invoke the raisers to give us substitutes of which they have done in a satisfactory manner of late. There are still enthusiasts in the older varieties that think the cause—the entire cause—of the absence of blooms of the varieties named is owing to mismanagement of the "stock." My opinion, based upon some experience, leads me to combat such an idea. Loss of constitution is the primary cause without any doubt.

The opinion has been expressed in some quarters that the incurved blooms seen at the show in question were the finest ever seen at a national show. With all respect to those in question I think otherwise. Those presented by the Messrs. Drover in the Centenary year were considerably in advance, as representing the true globular characteristics of an incurved bloom in its highest sense. The present day varieties do not lend themselves quite to this form.

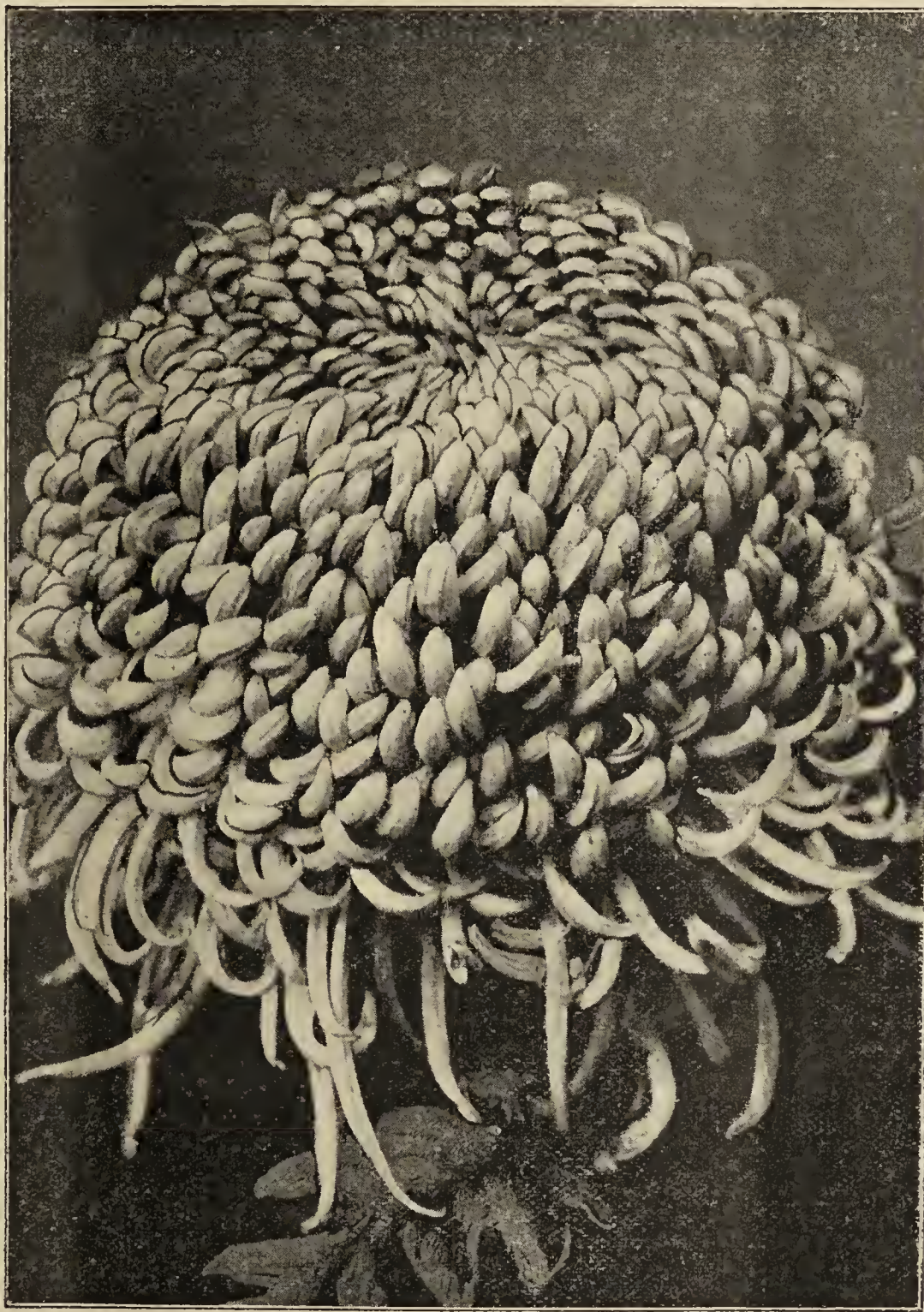


FIG. 118.—CHRYSANTHEMUM C. J. SALTER.

I hold the opinion that the Floral Committee of the N.C.S. would still further improve the incurved section if they were not quite so liberal in granting awards to new varieties until they were further tested. When a variety receives recognition one year as belonging to a particular section, and the following season develops characteristics that entirely fit it for the opposite, it is then seen that an error has been committed. What a pity the N.C.S. does not possess a Chiswick where all new varieties might be tested to prove their true character!

Many comments were heard upon the action of the body alluded to in relegating Mr. T. Carrington and *Australie* to the list of synonymous varieties. From the blooms of both staged it did not require a very close scrutiny to declare them absolutely distinct, not only in colour, but petal and general formation too. In colour the latter is lighter on the surface and has more silver on the reverse. In Mr. T. Carrington there is a warmer glow of rose purple, the "build" is better than in *Australie*, which, as a rule, is loose and irregularly incurving sometimes, but little is this feature perceptible. In habit of growth there is no similarity whatever. *Australie* will run up as much as 9 feet, while in Mr. T. Carrington seldom is the growth more than 6 feet, more often 4 feet.

It cannot be said that the award for the premier Japanese bloom met with unanimous approval. Many were the comments expressed to the contrary. The bloom—Mrs. Barkley—selected for this high honour was not fully developed, fine as it was in other respects. Fully a week longer on the plant would have made it almost unsurpassable. A premier bloom should possess few, if any, faults, perfection of form as characteristic in any variety should be the aim in selection. When a bloom is not fully developed in the centre it cannot be perfect in its character, even if smaller and finished then it is preferable to one that is not so. The bloom that was generally regarded as the best was a finely formed one of *Madame Carnot* in Mr. N. D. Vis's fountain group. If this was not quite so large as the variety has been seen in the past it had the merit of perfection in every other attribute.

In the reflexed section one could not but deplore the lost "form" of these varieties as compared with fifteen years ago when this type was in favour. The reason for this decline is not far to seek—their want of general usefulness in a decorative point of view as compared to the more showy and varietal Japanese. Still amongst the latter section varieties such as *Cullingfordi* and *King of Crimson* are difficult even now to excel. The want of vigour in the peduncle of so many varieties in reflexed is a great bar to their more popular inclusion.

It cannot be said that the results accruing from the handsome prizes offered by the president were quite satisfactory in point of good artistic grouping, as containing high merit in culture also. The amalgamation of cut blooms and plants in a group is hardly the best way to encourage high-class exhibits, such as can be seen at Hull, Birmingham, and elsewhere. Effective groups, after the lines of those annually seen at the places noted, would certainly improve even the great November exhibition of the N.C.S., good as it is in other respects.—SADOC.

Stanstead Park Nursery.

MESSRS. J. LAING & SONS have made such a reputation for the excellence of their strains of tuberous-rooted *Begonias*, *Gloxinias*, *Streptocarpus*, and *Clivias*, that the fact of their growing *Chrysanthemums* is apt to be overlooked. These are housed in the Rutland Road Nurseries, as sufficient accommodation is not easy to find at the chief establishment. Some plants are shown at the Stanstead Nursery, but it is only a very few in comparison with the bulk of the stock. Strictly speaking the collection is not up to date in respect of varieties, though some of the newer ones are to be seen, but the older sorts are so well grown that the exclusion of the novelties scarcely detracts from the interest of the collection in the smallest degree. It is immediately observed on entering the house that bush plants of several single varieties form a leading feature. These are most admirably grown, and carry their elegant flowers with remarkable freedom—so much so, indeed, as to greatly enhance the beauty of the display.

The old *Gloire de Rocher* is seen in really splendid form, and is valuable in a general collection for the bright distinctness of its colour. *Hairy Wonder* is very fine indeed, and the same may be said of *Gaphic*, which in one particular example was of immense size. *Madame Carnot*, G. J. Warren and Mrs. W. Mease are represented by several handsomely developed flowers, as are the *Morels*—*Vivian* and *Moré*, Chas. Davis, and *Lady Hauham*. *Le Grand Dragon*, *Phœbus*, *Edith Tabor*, and *Soleil d'Octobre*, amongst the yellow varieties, are conspicuous, the second and third named being in particularly good form. Mrs. T. Carrington and *Australie*, side by side, are worth a second glance, as are Mrs. White Popham and the old Col. W. B. Smith. The two best whites in the collection are *Lady*

Byron and Miss Nellie Pockett, both of which have built up large but refined blooms. Of the incurved section, Chas. H. Curtis, Baron Hirsch, and Mrs. R. C. Kingston are far and away the finest, the former especially being in excellent condition. These form only a very limited selection, but even if there were no others a visit to the nurseries would have been amply repaid. Time is flying fast, and those who wish to see the *Forest Hill Mums* must go soon, or their finest beauties will have departed. A few minutes spent amongst the *Streptocarpus* will be profitable; the colours range through white, white and purple, to several shades of red.

Royal Exotic Nursery, Chelsea.

Notwithstanding the reputation that has been gained by Messrs. J. Veitch & Sons for their Orchids, Ferns, *Nepenthes*, *Caladiums*, *Gloxinias*, *Carnations*, and hybrid *Rhododendrons*, of which, by the way, there are always some in flower, time and space are found for the cultivation of a collection of *Chrysanthemums*, which are this year quite equal if not superior to any display that has been brought together during past years. The flowers have considerable size, remarkable substance of floret, and brightness of colour. The whites, of course, soon become a little rusty through the many thousands of black specks that find their way into the structure, but the blooms are of excellent quality. Readers who desire to see them will be well advised in starting at once, as the probability of fogs is great, and they, more than anything else, rob the flowers of all their charm. The plants are just now at the height of their beauty, and any delay in going may result in seeing the flowers in the worst possible stage. This is in special reference to large flowers; bush plants will continue in perfection for some time longer.

The bulk of the plants belong to the Japanese section, but some of the leading incurved are also observable. Amongst the former *Edith Pilkington*, light canary yellow; *Florence Molyneux*, incurved white; *Lord Brassey*, crimson and white; *Miss Alice Byron*, pure white; *Miss Ida Barwood*, white, with incurved wavy florets; *Miss Lucy Cheesman*, clear yellow; *Miss Maud Douglas*, rose pink, white centre; *Mrs. G. Barnes*, primrose, tipped buff; and *Mrs. Powell Cotton*, crimson red, reverse buff, of the more recent introductions are perhaps the best, and will meet with the most general appreciation as seen at Chelsea. Of what may be termed the standard varieties the best include *Annie Prevost*, *Emily Towers*, *Henry Weeks*, *James Bidencope*, *Jane Molyneux*, *Lady Byron*, *Lionel Humphreys*, *Lord Boston*, *Lord Ludlow*, *Louise*, *Miss Nellie Pockett*, *Mrs. H. Weeks*, *Mrs. J. W. Barks*, *Mrs. T. Carrington*, *Mrs. White Popham*, *N.C.S. Jubilee*, *Phœbus*, *President Borel*, *Reginald Godfrey*, *R. Hooper Pearson*, *Sir Herbert Kitchener*, and *Soleil d'Octobre*.

Messrs. Veitch & Sons have, in addition to the plants grown solely for the production of large blooms, a span-roofed structure devoted to bush specimens. These are in various stages, from those already passing their best to others upon which the buds are scarcely showing the colour of their flowers. These alone are well worth the journey to see; they are in most excellent health.

Garden Refuse.

THE principle of wasting nothing is an important one to remember in the garden, as all organic matter has manurial value. At the same time we must avoid creating smells, which are alike offensive and unhealthy. It is a pity to burn all the refuse, as by that means all the nitrogen is lost. All the softer material at this time of the year should, if possible, be incorporated in the heap of dead leaves, which will not only smother all smell if it is well covered up, but will help to deodorise it, and the material being soft it will soon be decomposed. Some of the refuse should be put at the bottom of the pit for the Marrow bed, or if a trench a foot deep is dug some little distance from a row of fruit trees a deal may be trodden down into it, and thus be kept out of sight, and rendered both useful and innocuous. The aim should be to burn as little as possible. In the middle of the summer is the most difficult time to dispose of it, all the ground usually being occupied. The grass cuttings, and even the weeds, will form useful mulches, especially for surface-rooting things like *Raspberry canes*. Other stuff may often be dug-in as green manuring when preparing a piece of ground for late Turnips, winter Onions, or spring Cabbage. The only stuff which should be burnt in ordinary circumstances are the stiff stems of plants and the smaller prunings of trees, especially *Gooseberries*. When the stuff is burnt the ashes should be stored away in some receptacle in the dry, and when a tree is planted put at the bottom of the hole. All trees, and more especially stone fruit trees, exhaust the soil of lime and phosphates, and these ashes underneath a tree will form a most useful store, and will serve to keep the tree in vigour and fruitfulness for years.—ALGER PETTS.



Perpetual Strawberries.

FROM mid-June up to November 5th I gathered in the open every day a dish of St. Joseph Strawberries from about seventy plants put out last autumn. There is still a heavy crop of fruit, but they take a long time now to colour and ripen, and have at last lost flavour. But I may fairly say that to the end of October they were fine and good. As a matter of fact the fruits were larger through October than they were in September, this being because the strong early runners that did not bloom at first then came into bearing. I do not think "Wanderer" would have called them "little Strawberries" if he could have seen them; and if there is any doubt on the matter I dare say some of the members of the Ipswich Gardeners' Mutual Improvement Association, to whom I sent a fine basket on October 11th, or those of them who came to see the plants on October 28th, will bear out my statements. My success with these Strawberries consists, I believe, as I have stated, solely in the constant suppression of all runners as soon as found, with the exception of four or five of the earliest to each plant, which are encouraged to root where they grow.—W. R. RAILLEM.

The Apple.

REFERRING to Mr. Brotherston's learned (and interesting) article on this domestic friend, whether or no the Apricot was Eve's Apple I am not prepared to say; but I think everyone who has travelled in Palestine will agree with me that it is certainly the Apple tree of the Bible. I do not remember ever seeing one of our English Apple trees, whereas one June and July when there I saw nothing but Apricots. We encamped in orchards of them near Beyrout, good sized standard trees many of them, and near Damascus on the banks of Abana and Pharfar I saw literally acres of that fruit on the ground drying into the universal there and much esteemed "Mishmish." I have very little doubt that in the Canticles the Apricot is the Apple tree there spoken of in our authorised version; and again in Prov. xxv. 11, revised version, where we read, "Apples of gold in baskets of silver," there seems reason to think it is Apricots in silver filigree baskets which probably are alluded to. It is possible, as Mr. Brotherston rather suggests, that the Orange may be the tree which is intended, and I understand the Orange groves now round Jaffa have become one of the finest garden sights of the country; but this tree would hardly have ever had the universal culture of the Apricot. That Oranges were the golden Apples of the Hesperides seems exceedingly probable, and I certainly regard Jason as a public benefactor in facing the dragon to get them. While on the subject I may mention a somewhat homely but wholesome Apple proverb.

An Apple, an egg, and a nut,
You may eat after a slut,

the exterior of each affording protection against the suggested dirty fingers.—A. C.

In the article by Mr. Brotherston on pages 413 and 414 of last week's *Journal of Horticulture* he refers to the Apple known as Pomewater, and says it "can be traced from the time of Lydgate, the poet monk, till it disappears about the beginning of the eighteenth century." Judging by this remark it would appear that your correspondent has not seen the monograph on the Apple which was published by the late Dr. Robert Hogg in 1859. On page 159 of that interesting work the author gives a full description of the Pomewater Apple, and adds to this the following observation:—"I think there is little doubt that this is the Pome Water of Gerard. It is still grown in Lancashire and on the borders of Cheshire, of which county Gerard was a native, and with the fruits of which he was, in all probability, best acquainted." Your correspondent further says: "The fruit was very large, and not unlike in shape to the Dutch Codlin." In Dr. Hogg's description, however, the Pomewater is said to be "medium sized, 2½ inches wide and 2½ inches high."

I am aware that this variety is not included in any edition of the "Fruit Manual," not even in the second, which appeared immediately after the monograph—namely, in 1860. But many other varieties were excluded as well, and the object evidently was to confine the lists in the "Manual" to varieties in commerce. But there is another fact which proves Dr. Hogg had not renounced his opinion that the Cheshire Apple was the true Pomewater. On one occasion, I remember distinctly, amongst some fruits sent for names he identified an Apple as the one he had described over twenty-five years before as the historical curiosity here noted, and he informed me himself that he had seen it several

times, but always from old orchards in one of the two counties mentioned. I have had many horticultural tours in Cheshire and Lancashire, but I have never succeeded in discovering trees of the variety in fruit, though occasionally in markets and shops there I have seen Apples that closely resembled it. Perhaps some of your Cheshire readers could throw a little light upon the subject, and Messrs. Dicksons in particular ought to be in a position to say something on the matter.

I do not know what authority there is for assuming that Pomewater is derived from "a corrupted form of some old French appellative." Pomus and Pomum occur in very old lists, and in an edition of Boyer's "Dictionnaire Royal," published in 1783, which gives a large number of the old French names, there is nothing suggestive of the title in question. André Leroy gives very elaborate details respecting the early French varieties and names, but I have failed to find anything bearing on the Pomewater.

It is a matter of considerable interest to determine how many of the really ancient varieties of Apples are still in existence. The maintenance of characters in the form of cultivated plants over long periods has both practical and scientific importance, and the Apple constitutes one of the best objects for comparison and investigation. There are several very old Scotch Apples, concerning which no doubt Mr. Brotherston could give us useful information.—R. LEWIS CASTLE.

The Rose Analysis.

It is very gratifying to learn that Mr. Pemberton, than whom we have no higher authority on the question of exhibition Roses, has formed such a high opinion of my Rose analysis as a guide to the early exhibitions. I suppose there must be something in his contention that for the later shows it cannot however be regarded as equally reliable, because as far back as 1837 he expressed exactly the same opinion as he does now. He seems to have forgotten that in 1838 I at his suggestion took down the names of all the Roses in the prize stands at the National Rose Society's northern exhibition, and compared the records thus obtained with those made at the Society's Crystal Palace Show, and that in my analysis for that year appeared the following paragraph describing the outcome of that comparison: "When the results obtained at the society's two exhibitions this year—one held on the 7th and the other on the 20th of July, were compared, there was found to be but little difference between them. In fact, out of the twenty-four Hybrid Perpetuals most frequently shown at the Crystal Palace and at Darlington respectively, only E. Y. Teas, Prince C. de Rohan, Xavier Olibo, Camille Bernardin, and Heinrich Schultheis are not to be met with in both lists."

Considering the long interval between the two shows, that the Rose season that year happened to be an unusually late one, and that most of the exhibitors at Darlington hailed from the south, I thought I had proved conclusively that my analysis might be regarded as a sufficiently trustworthy guide for at all events the midseason exhibitions as well as the early ones, if not for the later exhibitions as well.

Mr. Pemberton states that these analyses are based on the flowers exhibited at the society's metropolitan show, which is always held on the first Saturday in July. This is undoubtedly true, but not so the very natural inference to be drawn from those facts. For few rosarians, I think, have ever considered how great must be the range of time covered by the analysis in question. In the first place, every exhibitor throughout the country who has any Roses out on the day of "the National" is certain to bring them to that particular show. This alone must make a considerable difference between the varieties exhibited from the late and early districts, to say nothing of the range in dates between the 1st and 7th of July. But more than all there is the difference between early and late seasons, amounting not unfrequently almost to the difference between an ordinary southern and northern exhibition.

Now as to the varieties named by Mr. Pemberton, Horace Vernet and Charles Lefebvre are certainly two of the most perfect exhibition Roses that we possess, but if my comparative tables tell me truly they are not as reliable as many others. Splendid in certain seasons, but equally indifferent in others. For my own part I have scarcely been able to stage a bloom of either variety the last two years, whereas in a favourable season they find a place in almost every stand. As for Madame Victor Verdier, Countess of Rosebery, and Auguste Rigotard, I persevered with these varieties year after year for ten seasons, but of so little service were they that I have now almost entirely discarded them; and except for large growers I should say they were but of little use. Taking the last four very early Rose seasons, those in which the conditions at the Crystal Palace Show are likely to have been most in accord with those at an ordinary northern show, the number of times they were staged in prize stands at the Crystal Palace was as follows:

	1893	1895	1896	1897
Auguste Rigotard	7	1	5	5
Madame Victor Verdier	14	2	4	5
Countess of Rosebery	10	11	5	3

E. M., Berkhamsted.

Royal Horticultural Society.

Scientific Committee, November 6th.

PRESENT, Dr. M. T. Masters (in the chair); Rev. W. Wilks, Rev. G. Henslow, hon. sec.; visitor, Mr. W. Faucett, Rector of the Botanic Institute, Jamaica.

Oaks in woods of Shirley.—Mr. Wilks exhibited various specimens of Oak leaves. The prevailing English Oak is *Quercus robur* var. *pedunculata*, the leaves of which run into a great variety of forms, according to the amount of development or arrest of the interstitial tissue between the ribs. A second kind closely resembles the leaf of the Turkey Oak, *Q. cerris*, or the moss-capped Oak. Others appear to be hybrids between *Q. cerris* and *Q. rubra*, and also *Q. r. pedunculata*. Two trees were observed having leaves characteristic of the American *Q. coccinea* or *Q. rubra*. This tree apparently never bears acorns in this country.

Castanea vesca foliage.—Dr. Masters showed some remarkable leaves consisting of but little more than the midribs, which had issued from the stump of a tree which had been cut down. He observed that entire trees are known to bear this kind of foliage.

Proliferous Apple-shoot.—He also exhibited a specimen of this well known phenomenon, in which the leafy shoot appeared to penetrate a ripe Apple and then proceed to a length of upwards of a foot. It is due to the floral bud being replaced by a leaf bud within the "pseudo-fruit," the apple being really of the nature of a stem in which the pistil is embedded.

Leaf-cutter bees' nest.—Specimens of these cells made of portions of leaves were sent by Mr. Thos. Crosswell, The Gardens, Homewood, Eden Park, Beckenham. He describes the formation of these leaf-cells as follows:—"After our Freesias had finished flowering and died down, the sticks that had been used for their support around the sides of the pots were removed, to facilitate their being placed on a shelf in the full sun. The bees took possession of the holes left by the removal of the sticks, and on turning out the pots of bulbs in August many of these cells were found."

Floriculture of the Ancients.

It is somewhat remarkable that the ancients should, comparatively speaking, have paid so little attention to the cultivation and improvement of garden flowers. Virgil passes the subject by in a few lines, as he says for want of space; but a modern enthusiast would certainly have introduced it by omitting something else. Columella, however, went more into details about gardens; but the number of plants of all kinds mentioned by him is less than a hundred. Pliny tells us of a great many more, but still of these true garden flowers are very few in number.

The earliest gardens were apparently either herb, *i.e.*, kitchen gardens, or else enclosures with avenues or irregular distribution of trees, with walks and drives, but without flowers. Such was called the "paradise" of the Persians. The younger Pliny has described his as having a long straight walk from the entrance, which branched off into others, divided by hedges of Box. In places the Box was trimmed into topiary work, representing letters, names, and other shapes. Marble statues, alcoves, and pillars, with fountains adorned it, as well as arbours covered with Vines. The whole gives an idea of a very stiff and formal style, much like that of the last century. Topiary work was much adopted, especially with Box and Cypress, representing scenes of hunting, fleets of ships, &c.

In Columella's poem he gives the contents of the gardens which contained useful plants; but the great difficulty lies in our recognising with any degree of certainty the plants mentioned. Thus the only flowers that one can feel certain about which he alludes to are the following:—*Caltha* is the Marigold, *Calendula*; *Lilium* the white Lily, *L. candidum*; *Melanthium*, *Love-in-a-Mist*, *Nigella*; *Narcissus* is the Poet's *Narcissus*, *N. poeticus*, or else *N. tazetta*; *Rosa*, some twelve varieties, more or less double, and *Viola* was our *V. odorata*, the Violet. Of doubtful plants may be mentioned *Amaranthus*. This appears to stand for both the *Immortelle*, *Helichrysum orientale*, as well as the *Love-lies-Bleeding* or true *Amaranthus*; *Hyacinthus* was most probably *Delphinium Ajacis*, the Larkspur; *Leo* appears to have been the Soapdragon, *Antirrhinum*; *Ligustrum*, doubtfully the Privet, *L. vulgare*; *Leucoja* seems to be *Cheiranthus cuspidatus*.

Virgil, in the short passage referred to, mentions *Acanthus*, which stood for anything prickly, as well as the true *Acanthus mollis*; *Amellus* was *Aster amellus*; *Colocasia*, our *Arum colocasia*; *Crocus* stood for several species, including the Saffron; *Hibiscus*, undoubtedly a malvaceous plant, and probably *Althæa officinalis*, the Marsh Mallow; *Salunca* was some species of Valerian; *Thymus* was the Thyme; and *Verbena* stood for plants used for sacrifices.

Pliny records the names of some twenty plants used for chaplets.

Among them were twelve varieties of Roses, four Lilies, the hedge *Convolvulus*, three kinds of *Narcissus*; purple, yellow, and red Violets; the Marigold, *Scopa* (*Chenopodium Scoparia*), *Baccharis* (*Salvia sclarea*), *Combretum* (not identified), *Crocus* or wild Saffron, two Irises, *Salicina* (a Valerian), *Polium* (*Teucrium polium*), *Amaranthus* (*Love-lies-Bleeding*), *Cyanus* (*Centaurea Cyanus*), *Holochrysum* (*Helichrysum orientale*), *Petilium* (not identified), *Bellio* (*Chrysanthemum segetum*), and *Chrysocoma* (*C. linosyris*).

A list of plants given by a Greek poet, Nicander, does not differ much from the preceding. In both cases they enumerate what were really wild flowers of South Europe. Those of Nicander not mentioned in the preceding list—given, of course, in Greek—are *Lychnis* sp., *Verbascum lychnitis*, *Anthemis nobilis*, *Viola tricolor*, Poppy, Marjoram, Rosemary, Maidenhair Fern, *Dianthus* sp., *Gladiolus*, *Anemone*, *Inula Helenium*, *Tragopogon*, *Cyclamen*, *Nasturtium*, Parsley, Lady's Slipper, and *Anthriscus*.

The reason why flowering plants were not more cultivated appears to be because they are so abundant in the wild state round the Mediterranean that there was no necessity to introduce them into gardens.

Clement of Alexandria, when inveighing against the luxurious practices of the Roman nobility, wrote in reproof of them as follows. Speaking of their perfumes and garlands he says, "The fields are stripped of flowers to form garlands that withered on the head, and by their excessive odour almost stupefied the senses."—GEORGE HENSLOW.

Pears.

Most country-house gardens, whether hall, manor, lodge, grange, rectory, vicarage, or farm, have their collections of Pears, large or small as the case may be; and very varied and peculiar, or limited, they are as a general rule; some are ancient and some modern, and some both ancient and modern, and the varieties range from the best of past days, with modern additions, to two or three varieties repeated with monotonous sameness over and over again, as Green Chisel, Jargonelle, Hessele, Bergamots, St. Michael, and the Old Duchess, as *Duchesse d'Angoulême* is commonly called, and perhaps Marie Louise.

We had better, however, in this contention confine ourselves to the case of the garden of a country house where the private gardener has to provide the domestic supply, and happy is that gardener whose predecessor (or predecessors) has left him a useful collection both on the walls, and in the orchard, and as bushes or pyramids, properly graduated as to season—early, midseason, and late—and in relative quantities, so as to give a constant supply, say from July to the new year. It is a splendid and valuable legacy. Every gardener in his day of course plants for the present needs and requirements of the establishment he serves, and according to the demands made on him both for table and for cooking, but local interest in Pear growing by someone in the neighbourhood who has a passion or hobby for Pears, often gives great varietal character to many collections. Or it may be that the gardener himself is an enthusiast, as there are such now (but more in past days than now, so it appears to the writer), and when such is the case almost every known variety, good, bad, and indifferent, may be found in the collection.

Some thirty to forty years ago, when pyramid Pear growing was such a craze, many French and Guernsey growers appeared in English markets, especially in the Midlands, bringing over large consignments of Pear bushes, and putting them up by auction, either in the markets or by some local auctioneer at his mart, and showing, to tempt buyers, monstrous samples of fruit as specimens of what their trees would produce. Many gentlemen who had caught the pyramid Pear growing fever, and dazzled by the wonderful specimens, bought bundles of them, and had them planted, and, as might have been expected, found out to their cost that "you can pay too dear for your whistle," and that you can buy your experience too dear. Many, of splendid sorts in name, proved to be the veriest rubbish; one or two were good, but the bulk were a "fraud," and had to be regrafted with old English or well-known foreign varieties. Soil and climate were utterly unsuitable to them. I am writing that which I know, for some of my present collection were of that character, and have had to be regrafted or grubbed up and burnt. As a collection we have now a fair stock, and we get carried pretty well through the Pear season.

It may be of interest to name them. I will put our useful ones first, generally, though not absolutely, in the order of their ripening; and of course we begin, as do most people, with Doyenné d'Été and Green Chisels in late July and August; then follow Jargonelles and Clapp's Favourite up to Bon Chrêtiens, which, being prime favourites with the

lady of the house, are gathered in sections, and so ripened by degrees, and their season prolonged to the latest they will keep, though, as we all know, they are of all Pears the chief of those which are "ripe at twelve o'clock and rotten at one." Our next are Benrre d'Amanlis, also gathered in sections to prolong their use; these get associated with Doyenné Boussoch and a few Windsors. Comte de Lamy, Souvenir du Congrès, and Louise Bonne de Jersey; followed in their ripening—not always in the same order and succession year by year, as every gardener finds out by experience—by Fondante d'Automne, Marie Louise, Pitmaston Duchess, Maréchal de la Cour, Fondante de Charneuses (a splendid Pear, and a very slow ripener), Autumn Nelis, Beurré Superfin, Marie Louise d'Uccle, Epine du Mas, Emile d'Heyst, Doyenné du Comice, Beurré Bosc, Easter Beurré (a sad

Conference, and I cannot say that I am taken with it. It is so long and thin that it will be all skin and core, I am afraid, on eating it, and if the flavour is not up to the mark it will be no gain to any collection. I shall watch it closely.

Speaking of "Quality in Fruit," H. R. Richards (writing page 383) does not think that the fruit of the present season shines in quality. Neither do I. I do not think I have tasted any Pear as yet up to its best flavour, except some Louise Bonne de Jersey, off large bushes or orchard-grown trees, and therefore rather small, that has satisfied me in this respect. What he hints at in his closing paragraph is quite true—too true—that raisers and planters do not consider high quality enough in their respective operations. Size, of late years, has been worshipped too much unfortunately, and quality has had to take a back seat.—N. H. P.

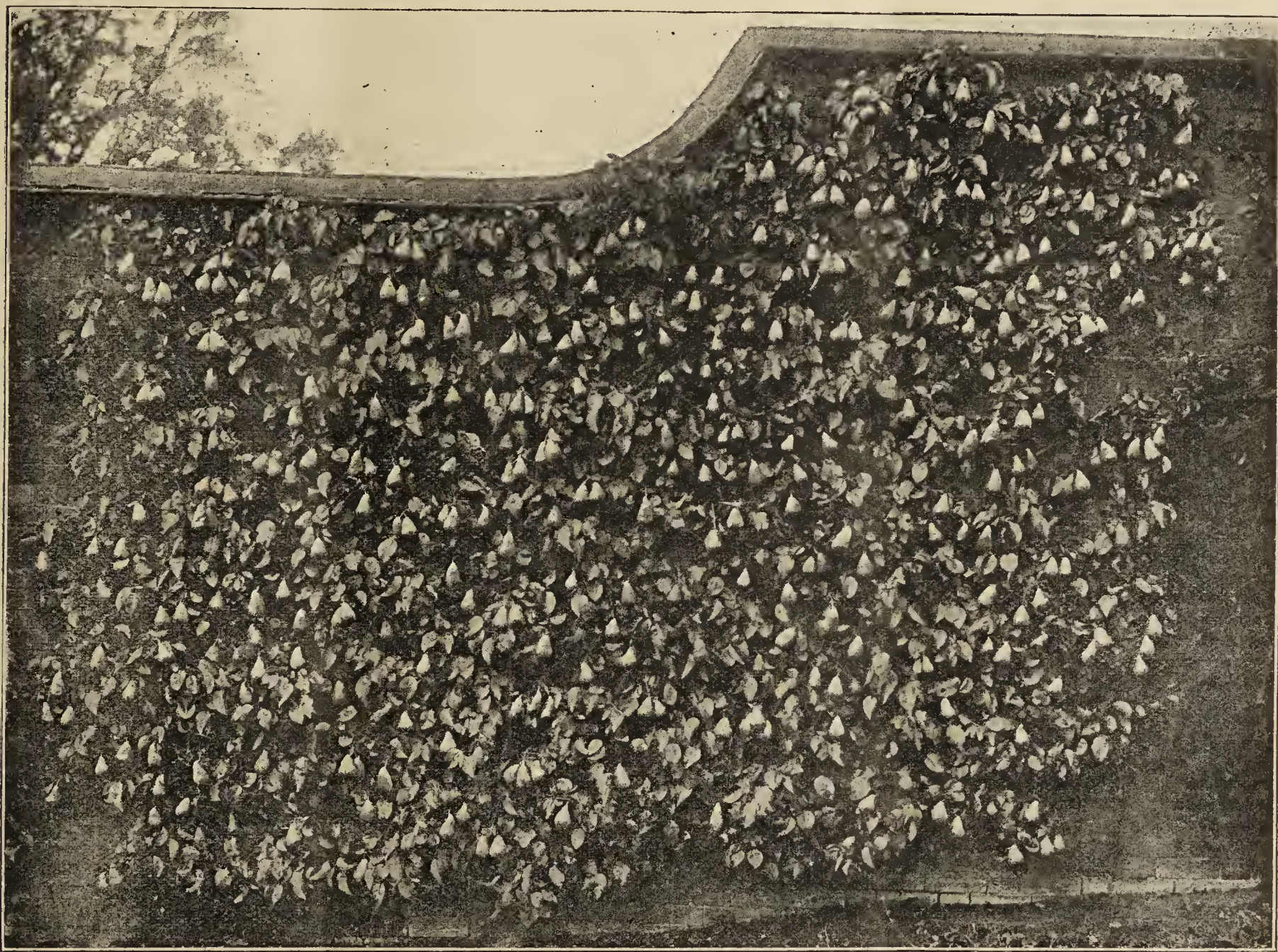


FIG. 119.—PEAR SOUVENIR DU CONGRÈS.

misnomer, as mine are usually in use about Christmas), Winter Nelis, Beurré Bachelier, Glou Morceau, Nec Plus Meuris, Bergamotte d'Esperen, and Joséphine de Malines, which last is about my latest.

We are great consumers of stewing Pears, and we use in this way Catillao, Beurré Diel, Vicar of Winkfield (this has given me at times a few dishes of very acceptable fruit for the table), Triomphe de Jodoigne, General Todleben, Beurré Clairgeau (a lazy bearer), Uvedale's St. Germain, Verulam, and Beurré Bretoneau.

There are a few Pears here—some of them a legacy of the past, as the old Bergamots, Beurré Hardy (the laziest bearer I believe that I know), and Pius IX.—useless except for stewing, and not of size good enough for that; Hessle, wonderfully productive, but that is all, and they go to the market straight off. The same with Fertility, its name being the only good quality it possesses—at least, that I have discovered. Beurré Capiaumont goes to market with the Hessle and Fertility, and Brown Beurré joins hands as to bearing with Beurré Hardy. The last and newest, and at present untried on the table, is

Pear Souvenir du Congrès.

THE Pear tree Souvenir du Congrès, of which I send a photograph, was planted in the autumn of 1884. It is trained to a wall facing east, and it seldom fails to bear a good crop of fair size fruit. This season it has carried 620 fruits, the total weight being 376 lbs. The wall is 9 feet high, and the tree spreads a distance of 14 feet. Every year as soon as the fruit is set I give the tree 2 ozs. of nitrate of soda per square yard, and several times during the summer a good soaking of liquid manure from the stable. I might say that the Pear crop generally about this part is very heavy this season:—G. LOCK, *Gardener to B. H. Hill, Esq., Newcombes, Crediton.*

[We reproduce the photograph forwarded by Mr. Lock, as it will certainly be of interest to many readers of the *Journal of Horticulture*. Perhaps it will convince some of those pessimistic persons who were complaining in these pages a year or two back of the decadence of gardening in general, and wall fruit in particular, that good trees may still be found in English gardens if we take the trouble to look for them

Chrysanthemum Shows.

Brighton, November 6th and 7th.

A VERY good show indeed, most of the eighty-eight classes being well represented. Groups, as usual with this society, were remarkably good. The first prize for a semicircular group of Chrysanthemums, arranged with any kind of foliage plants, in a space 14 feet by 8 feet, for quality and effect, was won by Mr. G. Sims, gardener to E. A. Wallis, Esq., Sunnyside, Upper Lewes Road, Brighton, with a superb arrangement, the quality of the blooms too being uniformly good throughout, and secured the Ryecroft silver-gilt medal and the N.C.S. certificate. Mr. G. Miles, Victoria Nursery, Dyke Road, was second; and Mr. J. Hill third. The class for a semicircular group of Chrysanthemums, arranged with Ferns or other green foliage plants in a space 11 feet 6 inches by 6 feet 6 inches, for quality and effect, is a very attractive one when well done, as was the case here. Mr. A. G. Blake, gardener to W. E. Blackiston, Esq., was first with a beautiful arrangement of well-grown plants, and secured the society's silver medal. Mr. W. E. Anderson gained the second prize. The first prize collection for a semicircular group of Chrysanthemum plants, in a space 11 feet 6 inches by 6 feet 6 inches, for quality and effect, was the best in the group classes, staged by Mr. H. Head, The Drive Nursery, Hove, who well deserved the piece of plate added to the money prize. Trained plants, as usual, were well represented, and made an attractive display round the outer circle of the Dome. They were all good, but the principal feature was in class 8, in which Mr. G. Lambert, of Chichester, staged four gigantic, not over-trained, but graceful dwarfs, each bearing considerably over 100 good blooms, without a single stake to support them.

The collection of Orchids, arranged with Ferns, on a table 4 feet square, included some rare specimens, beautifully arranged, and formed a very pleasing feature. First, Mr. H. Garnett, gardener to R. G. Fletcher, Esq., Mount Harry, Preston Park; second, Mr. J. Harper; third, Mr. W. Goodcliffe. There were numerous entries in the cut flower section, the principal being for thirty-six Japs. Mr. C. J. Salter, Woodhatch, Reigate, was first with a grand, even lot, and secured the challenge silver bowl and the society's silver medal. Mr. G. Hart was a close second; Mr. J. Harris third and Mr. H. Cooke fourth. Several classes usually shown on boards were transferred to vases, and were a great success. Fruit and vegetables were well represented. The Grapes particularly were numerous, and in some cases exceptionally fine. In the amateur section the principal feature was the Brighton amateur challenge trophy, to be won three times by the same exhibitor before it becomes his absolute property. The class was for eighteen Japanese Chrysanthemums, not less than twelve varieties or more than two of one sort, all blooms to be grown within three miles of the Pavilion. This trophy has already been competed for five times, and is still open. Mr. W. F. Goodwin, 44, Florence Road, Brighton, was the successful competitor this season.

Coventry, November 6th and 7th.

THE sixth annual show was held in the Market Hall, and the opening ceremony was performed by Lieut.-General Sir Henry Newdigate, who expressed the great satisfaction it gave him to know of the increased popularity of the shows, and the accruing advancement of horticulture, especially among the working classes of the neighbourhood. The *tout ensemble* of the display of flowers, fruits, and vegetables, especially by artificial light, was very attractive, and evidently much pleased the courtions and energetic secretary, Mr. J. Cooper, and his committee.

Meritorious were the groups of Chrysanthemums arranged for effect in spaces equal to 40 feet. Mr. J. Collier, gardener to G. Singer, Esq., Coundon, was adjudged first honours for a very well-arranged group, containing many excellent flowers; the second prize falling to Messrs. Webb & Sons, Stoke Nurseries; and the third to Mr. R. Watson, gardener to Miss Ratcliff, Coundon. For a group arranged in a space equal to 25 square feet Mr. T. Gayton, Stoke, won the first prize, being the only exhibitor in the class, with a creditable production. There were two groups of plants, exclusive of Chrysanthemums, arranged for effect, and the first prize was accorded to Mr. W. Finch, nurseryman, Coventry, for a very charming arrangement in his well-known style, consisting principally of ornamental foliaged plants, with a few Orchids, Begonia Gloire de Lorraine, Ferns, &c.; the second prize falling to Mr. J. Collier for a worthy exhibit of chiefly ornamental foliaged plants. Bush-trained plants of Chrysanthemums made a creditable display. Mr. E. Carter, gardener to T. Browett, Esq., was placed first in the class for four Japanese; and Mr. R. Watson in the second position. For four incurved plants Mr. R. Watson was awarded the second prize, the first being withheld. For a group of plants arranged for effect, 25 square feet, the first prize was awarded to Mr. T. Gayton, Stoke Green; the only exhibit.

Cut blooms of Chrysanthemums were in some cases of excellent merit, especially in the class for twenty-four blooms in not less than eighteen varieties, Japanese. Mr. H. Blakeway, gardener to P. A. Muntz, Esq., Dunsmore, Rugby, was awarded the first prize for a meritorious lot, one bloom of Vivian Morel being of extraordinary depth, fresh and bright in colour, the other best blooms being Madame Remy, Nellie

Pockett, Mrs. Mease, fine; and Mdle. Rivoire. The second prize fell to Mr. J. Collier for some good blooms, the best being Mrs. W. Mease, Oceana, Phœbus, Le Grand Dragon, Mrs. C. H. Payne, and Lady Hanham. For twelve Japanese Mr. Blakeway was placed first with fine blooms of Madame Remy, Henry Weeks, Mdle. Rivoire, Ella Curtis, and Vivian Morel. For twelve blooms incurved Messrs. Webb & Sons were placed first for C. H. Curtis, fine; Baron Hirsch, Queen of England, E. Cannell, Violet Tabor, Yvonne Desblanc, Globe d'Or, Mons. R. Bahuant, John Lambert, Empress of India, Lady Isobel, and Violet Foster.

For the best six blooms of Japanese Chrysanthemums, distinct, a special prize was given by Messrs. Lever Bros., and won by Mr. A. Wood, Allesley; the second prize going to Mr. E. Carter.

For two bunches of Grapes, Mr. A. Blakeway secured first prize with excellent bunches of Alicante; the second prize going to Mr. Eldridge for two good bunches of Gros Colman with large berries well coloured. Mr. E. Ford, Bagginton, displayed a fine collection of Apples and vegetables (highly commended). Mr. H. Martin, gardener to Lord Leigh, Stoneleigh Abbey, was very highly commended for a collection of Apples and Pears, the latter especially fine. Messrs. R. Smith & Son, St. John's, Worcester, contributed a representative collection of Apples and Pears. Messrs. Rowe & Sons, Barbourne Nurseries, Worcester; Messrs. Hurst & Sons, Hinckley, made an interesting display of fruit and flowers; and Mr. John Vale, Orleton, Hereford, was highly commended for a fine collection of Apples. Special prizes given by Mr. W. Finch for collections of vegetables were well won by Messrs. J. E. Banks and J. V. Pugh. For Mr. F. Curtis' prizes for collections of vegetables Messrs. Wakefield, F. Flower, and W. F. Wyley were the winners as in the order named. For the society's prize for collections of vegetables Messrs. C. Wakefield, W. Dudley, and W. F. Bennett were placed as named. Other vegetables in single dishes by various exhibitors were capitally shown.

Messrs. Webb & Sons were placed first for a hand bouquet, consisting of Orchids, Lily of the Valley, and Asparagus plumosus. Mr. J. E. Banks second, and Mr. A. Wood third. Primulas were good, and Mr. A. Wood, Allesley, was accorded the first prize; the second to Mr. Eldridge, gardener to W. F. Wyley, Esq., and the third to Mr. J. E. Banks. For a bouquet of Chrysanthemums the first prize was won by Messrs. Webb & Sons, and the second prize by Mr. G. Finch, gardener to J. E. Banks, Esq. For the best arranged bouquet Messrs. Webb and Sons, Stoke Nurseries, were the winners with an artistic arrangement. Mr. W. Finch took honours for a bouquet of Orchids elegantly arranged, and his daughter was highly commended by the judge for a very pretty and ingeniously composed cushion of Michaelmas Asters, small Chrysanthemums, and an edging of Celosia pyramidalis to form tassels. Mr. W. Howe, gardener to J. R. Starley, Esq., Coventry, was highly commended for a group of plants. Messrs. Perkins & Sons, Coventry, put up one of their well known floral arrangements, and were very highly commended.

Kingston, November 6th and 7th.

THE exhibition on the above dates was the twenty-fourth, held at the Drill Hall, Kingston, for many years the scene of notable cup contests. On this occasion the show was an improvement on those of several years past, and on that of last year especially. The entries then were 143 in number, compared to 239 in the recent one. Cut blooms all through the classes were excellent, and generally the competition was keen.

For a group of Chrysanthemums and foliage plants the first prize was gained by Mr. W. G. Castle, gardener to J. W. Harker, Esq., The Elms, Ham Common; second, Mr. J. Watson, gardener to Miss Beckford, Oxford House, Ham. A class for a group of flowering and foliage plants brought four competitors, Mr. D. Gibson, gardener to J. B. Johnstone, Esq., Coombe Cottage, being first with a light and choice arrangement; second, Mr. H. Hawkes, gardener to G. B. Tate, Esq., Thames Ditton House; third, Mr. F. Farrant, gardener to A. J. Gillett, Esq., East Molesey. For four specimen plants the lead was secured by Mr. S. Pead, gardener to R. S. Bond, Esq., Croylands, Surbiton, a fine specimen of Madame Carnot being the best; Mr. G. Mileham, gardener to A. T. Miller, Esq., Leatherhead, second with capital specimens.

Mr. F. King, gardener to A. F. Perkins, Esq., Oak Dene, Holmwood, was the only exhibitor in two dozen varieties of incurved. These were first-rate, and included fine blooms of Mrs. H. J. Jones, Topaze Orientale, Globe d'Or, Robert Petfield, and Miss Haggas. For twelve incurved Mr. W. G. Forbes, gardener to Madame Nicol, Regent House, Surbiton, led with nice blooms of Globe d'Or, Miss Violet Tomlin, Prince Alfred as the best. In the class for half a dozen incurved blooms Mr. G. Mileham came first with really good blooms of Chrysanthème Brunet, Topaze Orientale, Madame Feilât, Globe d'Or, C. H. Curtis, Lady Isobel. For six blooms of one sort five fine stands were staged, the lead being taken by Mr. T. H. Bolton, gardener to B. Weguelin, Esq., Coombe End, with fine specimens of C. H. Curtis; second, Mr. S. Pead with the same variety.

The Japanese blooms made a fine display, and in the leading class for twenty-four varieties the best were those from Mr. J. F. McLeod, gardener to J. P. Morgan, Esq., Dover House, Rehampton. The blooms were highly developed and well coloured. The varieties were Mrs. Barkley, Mrs. H. Weeks, Lady Ridgway, Lady Hanham, Phœbus,

Australie, Mrs. G. W. Palmer, Mr. T. Carrington, Pride of Madford, Charles Davis, Mrs. C. H. Payne, Simplicity, Vivian Morel, Sam Probin, Mrs. Mease, M. Chenon de Léché, Edith Tabor, H. Weeks, N.C.S. Jubilee, Col. W. B. Smith, Lionel Humphrey, Sunflower, Mrs. W. Cursham, President Borel. Second, Mr. G. J. Hunt, gardener to Pantia Ralli, Esq., Ashted Park, Epsom, with good blooms of Sir H. Kitchener, Phœbus, E. Molyneux. Third, Mr. F. King. For twelve blooms Mr. Alex. Smith, gardener to The Lady Superior, Convent Gardens, Roehampton, led with a good stand, a bloom of Mrs. H. Weeks being conspicuous. Second, Mr. G. Mileham, in whose lot the new variety named after himself was striking. Mr. Bolton led with half a dozen distinct kinds, his exhibit being excellent.

There were seven in the class for six Japanese, one variety, this set making a brave show. Mr. McLeod led with handsome flowers of Mr. T. Carrington, Mr. Smith following with Lady Hanham. Third, Mr. Hunt, with blooms of Mrs. W. Mease. In the local classes the principal winners were Messrs. W. G. Forbes, Bolton, Gibson, and Pead, the last named having half a dozen magnificent blooms of Mrs. H. Weeks in the vase competition.

In fruit Mr. D. Gibson led with black Grapes, his bunches of Black Alicante being good. Second, Mr. Wm. Taylor, gardener to E. Bayer, Esq., Tewkesbury Lodge, Forest Hill, with Gros Colman. This exhibitor was the only one to put up white Grapes, and was deservedly awarded first for excellent Muscat of Alexandria. In a keen competition for Apples the lead was taken by Mr. E. McCormick, gardener to Sir Douglas Fox, Coombe Springs. Second and third, Messrs. Alex. Smith and D. Gibson. The last named was first for Pears, Mr. Pead second, and Mr. Mileham third.

Among the non-competitive exhibits the hybrid Streptocarpus of Messrs. James Veitch & Sons were most attractive. Messrs. W. Wells and Co., Earlswood, had a stand of new Chrysanthemums, in which W. R. Church, C. J. Salter, and Mahogany appeared most promising. A tasteful stand of various designs in flowers, brought by Mr. W. Hayward, florist, Kingston, was generally admired.

Royal Horticultural Society of Ireland, Nov. 6th and 7th.

THE annual Chrysanthemum display of the above society was held on Tuesday and Wednesday, 6th and 7th inst., in the hall of the Royal Dublin Society's Rooms, Ballsbridge, co. Dublin. The six pot plants of Chrysanthemums displayed by Mr. Cavanagh, gardener to Mr. R. W. Booth, Victoria House, Dalkey, were a revelation to growers; the plants were giant specimens, and in the opinion of the judges were the finest lot ever exhibited. Cyclamen were a feature; Mr. Davis, gardener to Mrs. Goodbody, Obelisk Park, Blackrock, was an easy first. Fruit was well displayed, but averaged a medium sized fruit with a few exceptions, notably Mr. Hartley, gardener to Mr. W. Goff Pim, Mountmellick; Mr. Davis, gardener to Mr. Goodbody; and Mr. Colgar, gardener to Mrs. Meade, Merrion. Vegetables were finely grown, and judging was exceedingly difficult, Mr. Porter gaining honours in the large class by a narrow margin over Mr. Stringer, gardener to Sir Roger Palmer, Penure Park, Rush. Nurserymen's stands of fruit showed a slight falling off from last year.

For a group of Chrysanthemums and foliage plants Mr. W. Cardy (gardener, Mr. Meles) came first in a group of Chrysanthemums for a silver challenge cup, Mr. P. Geoghegan easily retained the cup. The following were by far the best developed plants:—Souvenir de Petite Ami, William Holmes, Mrs. N. Molyneux, Beauty of Teignmouth Charles Davis, Source d'Or, and Vivian Morel. In the section devoted to Chrysanthemum and flowering plants, Mr. George Drimmie was an easy first; Mr. Byrne, his gardener, had staged apart from some choice bush Chrysanthemums, with Crotons, Dracœnas, Ferns and Palms neatly interspersed. In this class, but not for competition, Mr. P. Harper, gardener to Sir J. Malcolm Inglis, Montrose, Donnybrook, had a neatly arranged stand, comprising Begonias, Gloire de Lorraine was much in evidence; Palms, Marantas, Dieffenbachias, Saint-paulia ionantha, whilst Cattleya labiata helped to brighten the whole with effect. Mr. Campbell, gardener to Lord Ardilaun, had an effective stand, the following types were grouped in masses:—Primulas, Cyclamen, Salvia coccinea compacta splendens, Chrysanthemums (at the back of the others sloping), Palms, also Violets and Gloire de Lorraine, neatly edged with Adiantums. The blue flower bract of Dichorisandra chrysanthema adjoining was much admired.

In the class for forty-eight Japs in an equal array of varieties, the premier place was adjudged to Mr. Peter Brock, gardener to Capt. Nicholson, Glenmor, Drogheda. The following were fine blooms: Simplicity, M. Panckoucke, Edith Tabor, Lord Ludlow, Mrs. Lees, H. J. Jones, Lady Byron, Mr. F. Brewer, R. Rowell, International, Oceana, and Swanley Giant. Second place went to Lord Ashbrook, Durrow, Queen's County (gardener, Mr. McKellar), with excellent blooms of Mrs. Mease, Lord Salisbury, Silver Queen, General Paque, David Drummond (Pockett, a new variety, more anon), Khaki, and Mons. Hoste. In the class for twenty-four Japs, and the gardener's challenge cup, Lord Ashbrook was first with an even lot of blooms of Madame L. Remy, Mrs. J. M. Barks, Madame Carnot, Lady Hanham, Mons. Hoste, John Seward, Mrs. R. Popham, Pride of Madford, Edith Tabor, and G. Bruant. Second place went to Colonel Crichton, Mullaboden, Ballymore, Eustace, co. Kildare (gardener, Mr. Mitchison), with a box of well developed blooms comprising Phœbus, Duke of Wellington, Pride of

Madford, Australie, Oceana, Madame Carnot, and Mrs. W. H. Lees. For the incurved, twenty-four blooms, Lord Ashbrook was first with a fine display, the blooms averaged a medium size, with Lady Isobel, C. H. Curtis, Baron Hirsch, Topaze Orientale, Jeanne d'Arc, Mrs. Lockie, Hanwell Glory, and Lucy Kendall. Second place went to Marquis of Downshire, Hillsboro, co. Down (gardener, Mr. Bradshaw), with Mons. Brabant, Yvonne Desblanc, and Globe d'Or. For the twelve vases, in twelve varieties, at least three blooms, first place was captured by Capt. Nicholson, Glenmor, Drogheda, with Ella Curtis, Pride of Madford, Swanley Giant, Mrs. J. Lewis, J. Rivoire, and Amiral Avellan. Second place Lord Ashbrook, Lady Hanham, Edith Molyneux, Vivian Morel, Mrs. Mease, and Pride of Exmouth. For the specimen, Mr. Cavanagh secured unquestioned honours with a superb plant of Vivian Morel.

Mr. Rigg, gardener to Lord Cloncurry, secured an easy first for table plants. The specimens were both well coloured and well furnished. In non-competitive exhibits Mr. Tyndall, gardener to Major Burrowes, Gilttown, co. Kildare, displayed Roses and Violets; the flowers of the first were very fine for period of year. For Grapes competition was rather weak; however, samples staged were of a high order. For four bunches Mrs. Meade was first with Black Alicante and Muscat of Alexandria; Mrs. Goodbody was a close second with Trebbiano and Gros Guillaume. For whites the latter was an easy first. For a collection of dessert Pears, twelve varieties, in dishes of four each, Lady Emily Bury, Charleville Forest, Tullamore (gardener, Mr. McKenna), was first with Conseiller de la Cour, Beurrié Clairgeau, and Duchesse d'Angoulême, were the finest samples; she likewise retained premier position for the six varieties of dessert fruit; Marie Louise was very good. For a collection of twelve varieties of Apples, comprising half dozen baker's and a half dozen dessert fruit, six of each, Mr. Hartley, gardener to Mr. Goff Pim, Mountmellick, was an easy first.

Southampton, November 6th and 7th.

NEVER in the history of the Royal Southampton Horticultural Society has such a capital autumn exhibition been recorded as that which took place on the above dates in the spacious Skating Rink. The building is admirably adapted for a Chrysanthemum show, and a good general view of the whole exhibition is to be obtained from the galleries. The groups and plants were far above the average both as regards the quality and the size of the blooms. In the cut bloom classes, too, a very great improvement was manifest.

For the best collection of plants in a space 10 feet by 7 feet, Mr. G. Hosey, gardener to J. C. E. D'Esterre, Esq., Elmfield, Millbrook, was a good first with a capital group, Mr. B. Henley, Woolston, second, and Captain Shawe, Storey, third. Mr. Hosey was also to the fore in the two classes for plants, four white and four any colour excepting white.

There were eight entries in the class for six vases of Japanese blooms, three in a vase, on long stems, and the whole made a splendid display. Small Ferns were arranged about the vases, and greatly assisted in the general effect. The premier award fell to Mr. H. H. Lees, who staged the following varieties:—Australie, Mrs. W. Mease, Phœbus, Mrs. Barkley, very fine; Le Grand Dragon, and Vivian Morel, splendid colour, all wonderfully fresh and well staged. Mr. G. Hall, gardener to Lady Ashburton, Melchet Court, Romsey, was second with Mrs. W. Mease, Mr. T. Carrington, Mrs. Coombes, Chenon de Léché, Madame Carnot, and Vivian Morel. Mr. E. Carr, gardener to Mrs. Gillett, Fair Oak, Bishopstoke, third.

For twenty-four Japanese blooms in sixteen varieties there were five entries. Mr. G. Nobbs, gardener to H.M. the Queen, was awarded the first prize. Le Grand Dragon (2), Mr. T. Carrington (2), Mrs. W. H. Lees (2), Surpasse Amiral (2), H. J. Jones, Lady Hanham (2), splendid; Simplicity, Wm. Birdney, International (2), Mrs. W. Mease, premier bloom in the show; Swanley Giant, Chenon de Léché, Madame Couvat de Terrail (2), Oceana, fine; Vivian Morel, and Graphic. Mr. H. N. Mose, florist, Sholing, was an uncomfortably close second, showing in good form Australie, Mrs. Barkley, Phœbus, Mrs. W. H. Lees, grand; and Chenon de Léché. Mr. G. Hall third.

The class for eighteen Japanese, distinct, brought five entries. Mr. L. Dawes, gardener to Mrs. Ogilvie, Rosecroft, Hambledon, was first with splendidly coloured blooms, as follows—Chenon de Léché, Madame G. Henry, Mrs. C. H. Payne, Mutual Friend, Pride of Madford, Jane Molyneux, Mrs. Mease, Duke of York, Philippe Rivoire, Phœbus, Madame Carnot, Australian Gold, James Bidecove, Lady Ridgway, E. Molyneux, N.C.S. Jubilee, Lady Hanham, Mons. Hoste. Mr. G. Nobbs second, and Mr. Mose third. Mr. Dawes also led in the class for twelve Japanese blooms, distinct, with Phœbus, Duke of York, E. Molyneux, and Chenon de Léché as his best; Mr. G. Hall second, and Major Chichester, Embley Park, Romsey, third. Mr. G. Nobbs was first for twelve incurved, distinct; Mr. W. G. Adams, florist, Southsea, second; Mr. Mose third. There were six entries for twelve Japanese, incurved. Mr. Lees was first with Emily Towers, Master H. Tucker, Mrs. H. Weeks, Lady Ridgway, Oceana, Mrs. Cursham, and Mr. T. Carrington; Mr. G. Hall second; Mr. J. Wasley, gardener to J. B. Taylor, Esq., Sherfield Manor, Basingstoke, third.

Six blooms, white, in two varieties, shown in vases, brought five entries, and here again Mr. Lees was a good first with Mutual Friend and Mrs. J. Lewis. Mr. E. Brown, jun., New Alma Road, Southampton,

was second, and Mr. West, gardener to H. J. Wigram, Esq., Northlands, Salisbury, third. For six blooms in vases, white excluded, Mr. Lees was well ahead of his seven opponents, showing in capital form James Bidentope (splendid colour) and Oceana. Mr. Wasley was second with Mrs. Mease and Lady Ridgway; Mr. J. King, gardener to H. G. Lloyd, Esq., Crondall, Hants, third.

The entries in the section confined to gentlemen's gardeners and amateurs were very numerous. The class for eighteen blooms brought eight entries. Mr. C. Smith, gardener to W. F. Forwood, Esq., Hook, Hants, was first, Mr. Lees second, and Mr. West third. There was keen competition in the amateur division for twelve Japanese blooms, distinct, and the silver challenge cup, presented by Mr. E. Brown, jun., was won for the second year in succession by Mr. H. H. Lees. His stand comprised splendid examples as follows:—Australie, Oceana, V. Morel, Le Grand Dragon, Miss Alice Byron (fine), E. Molyneux, Phœbus, Mrs. Barkley (splendid), Mons. Panckoncke, Chenon de Léché, Miss Maud Douglas, and Mutual Friend. Mr. T. Robb, Woolston, was second, Mr. E. Brown third. Mr. Lees again led for six Japanese, distinct, Australie, Madame Cadbury (beautiful), C. Davis, Phœbus, Nellie Pockett, and Mr. Barkley; Mr. E. Brown second, and Mr. H. Snook, Portsmouth, third.

Birmingham, November 6th, 7th, and 8th.

THE commodious Bingley Hall was again the venue for the grand Chrysanthemum Show of the Midlands, and fully, and in some respects more than sustained the society's reputation. The leading feature undoubtedly were the groups of pot Chrysanthemums arranged for effect, and highly meritorious as the groups of former occasions were, never before was the artistic element evolved as on the present occasion, a most marked departure having been adopted by the leading exhibitors from the hitherto formal style of arrangement.

For a group arranged in a space 20 feet wide at back, and 12 feet deep, Mr. Macdonald again demonstrated his skill and ability to build a good group by taking the first prize. The elevated mound of plants at the back of the group was surmounted by an elegant Palm, supported on either side by four other graceful Palms in variety; at the front on the right and left were a monnd, each topped with graceful plants of *Arundinaria falcata*. The body of the group assumed an undulated surface, the various colours of the splendid blooms of Chrysanthemums, and in which white predominated, were most judiciously disposed, and were pleasingly supplemented by an intermixture of richly coloured Crotons, with a rich edging of such as Croton, *Dracœnas*, and Fern, completed the *chef d'œuvre*. The second prize was worthily won by Mr. W. Thomas, gardener to J. Whitfield, Esq., Moseley, with a close replica both in style and fine blooms of the leading group, the third prize falling to Mr. A. Cryer, gardener to J. H. Kenrick, Esq., Berrow Court, Edgbaston, with a meritorious production. The fourth prize was awarded Mr. A. Jenkins, gardener to A. W. Wills, Esq., Wyld Green, for a worthy example, more in the old style, and the fifth to Mr. E. Burden, King's Heath. In the class for a smaller sized group, Mr. J. Maldrem, gardener to G. Cadbury, Esq., Northfield, was adjudged the first prize, Mr. G. Fawdry, gardener to W. Smith, Esq., Moseley, the second prize, and Mr. W. Otway, gardener to Miss Albright, Edgbaston, the third prize, all with fine blooms creditably arranged.

Birmingham exhibitors have ever been noted for trained Chrysanthemum plants, and which again maintained the reputation, though hardly so numerous exhibited as on some former events. For nine large flowering plants (Japanese excluded), dissimilar, Mr. Oliver Brasier, gardener to E. Martineau, Esq., Edgbaston, was first with finely bloomed specimens; the second prize falling to Mr. J. Maldrem. For six large flowering varieties Mr. Brasier was again to the fore, and Mr. Maldrem second. For six Japanese Mr. Brasier was first, and Mr. A. Cryer second. For three Japanese Mr. Brasier, Mr. Maldrem, and Mr. A. Cryer secured the prizes as in the order named.

The cut bloom section of Chrysanthemums was represented in the leading classes by blooms of extraordinary merit. Especially did this pertain to the first prize blooms of twenty-four Japanese, exhibited by the cut bloom champion of the show, Mr. A. Chandler, gardener to A. James, Esq., Rugby, and so large were they that an overcrowdedness was apparent by reason of the size of the ordinary show stand, thus detracting from the contour of the individual blooms. The varieties were Mons. Chenon de Léché, Mrs. Weeks, a grand flower; Mr. H. Barrett, Mrs. Mease, Graphic, Mutual Friend, Mrs. White Popham, Lady Hanham, Madame Gustave Henry, Madame Carnot, Zephoris, Le Grand Dragon, Lady Ridgway, Lady Phillips, Mrs. T. A. Compton, Sir Herbert Kitchener, Phœbus, Australie, Florence Molyneux, fine; Mrs. Coombes, Mr. J. Lewis, Edith Tabor, fine; and Miss Alice Byron. The second honours were secured by Mr. C. Crooks, gardener to the Dowager Lady Hindlip, Droitwich; while Messrs. S. Bremmell, gardener to H. H. F. Hayhurst, Esq., Wellington, Salop; R. Jones, gardener to A. Smith Ryland, Esq., Burford Hill, Warwick; W. H. Herbert, gardener to F. J. Blake, Esq., Coventry; and J. H. Goodacre, Elvaston Castle Gardens, followed in the order named. There were twelve exhibits in this class.

For eighteen blooms, distinct, Mr. A. Chandler, Mr. R. Jones, and Mr. C. Crooks were the principal winners. For twelve blooms Japanese, distinct, Mr. A. Chandler again distinguished himself with Miss A. Byron, Graphic, Ethel Addison, Australie, Emily Towers, Lady Ridgway, Mrs. W. Cursham, Madame Gustave Henry, President Bevan,

Mrs. H. Barrett, Mrs. W. Popham, and Lady Playfair. The second prize was adjudged Mr. R. Jones with excellent blooms, and Mr. S. Bremmell the third.

The incurved Chrysanthemums were also finely shown, and Mr. C. Crooks proved the chief winner with capital examples of Madame Ferlat, Violet Foster, Lonis Giles, fine; Hanwell Glory, King of the Yellows, Mrs. Heale, C. H. Curtis, Queen of England, Bonnie Dundee, Annie Hills, Empress of India, Brookleigh Gem, J. Agate, Perle Dauphinoise, Chrysanthemiste Bruant, Golden Empress, J. Lockie, Fonka, Duchess of Fife, Topaze Orientale, Golden Empress, Nellie S. Threlfell, Robert Petfield, C. B. Whelwell, and Jeanne d'Arc. The second prize fell to Mr. A. Chandler, the third to Mr. C. Crooks, and the fourth to Mr. J. H. Goodacre. For twelve blooms, distinct, Mr. A. Chandler was victorious with the leading varieties, with Mr. C. Crooks and Mr. R. Jones in close attendance.

For six blooms of any one variety of white Japanese Mr. C. Crooks was first with Madame Carnot, very fine. Mr. R. Jones came in second with Madame Philippe Rivoire, and Mr. A. Chandler was third with Mutual Friend. For six blooms of yellow Japanese Mr. C. Crooks annexed the first prize with fine examples of Phœbus, Mr. Crooks second with Edith Tabor. The third prize fell to Mr. R. Nisbet, gardener to Mrs. Bass, Burton, with Phœbus.

In the classes for cut blooms of Chrysanthemums grown within a radius of four miles of the centre of Birmingham there were some excellent examples by Messrs. W. H. Westbury, gardener to C. Showell, Esq., Edgbaston, and J. V. Macdonald. The Anemone section was capitally shown in the open class by Mr. R. Jones, Mr. G. Neal, gardener to P. South, Esq., Bampton, and Mr. C. Batchelor, Edgbaston.

An interesting and commendable class was that for specimen blooms on long stems for decorative purposes, and in which several exhibitors took part. The eleven exhibits of decorated dinner tables with Chrysanthemums, the respective winners were Miss Johnston, Tamworth; second, Miss Hughes, Harborne; third, Mr. H. A. Burberry, King's Heath. Tree Ferns made a striking feature in the hall. Primulas were finely shown by Messrs. Thomson & Sons, Birmingham. Bouquets of flowers for the hand were sparsely shown.

Fruits, as usual, formed a great feature of the show, and the first prize was deservedly awarded to Mr. F. Jordan, gardener to J. Corbett, Esq., Impney, Droitwich, for the most magnificent collection of fruit ever exhibited at any previous Chrysanthemum show here. His Apples especially were large and highly coloured; Grapes, Melons, Pears, Plums, and numerous other kinds of fruit were the principal portion of the exhibit, and to which the first prize was attached. The second prize was awarded to Mr. Geo. Mullins, gardener to Lady H. Somerset, Ledbury; the third prize went to Mr. J. Read, gardener to the Earl of Carnarvon, Brethby Park, both with fine fruits. Grapes were so finely represented that notwithstanding the exigencies of space, one cannot refrain from more particular mention of them. For six bunches, not less than three varieties, Mr. J. H. Goodacre gained the coveted position with splendid examples of Muscat of Alexandria, Barbarossa, and Gros Colman; the second prize going to Mr. F. Jordan for Alicante, Muscat of Alexandria, and Barbarossa; and the third to Mr. G. Mullins, Ledbury. For three bunches black Grapes Mr. Goodacre was again first with Barbarossa, and Mr. G. Mullins second. For three bunches white Grapes (Muscats) Mr. Goodacre was first, and Mr. F. Jordan second; third, Mr. J. Gould, gardener to J. B. N. Entwistle, Esq., Rugby. For two bunches any other white Grape Mr. J. Gould was first for Golden Queen, and Mr. Goodacre second.

In addition to the numerous and fine dishes of Apples and Pears in the competitive classes there were several large non-competitive collections. Vegetables were another strong feature both in the competitive and trade classes, and were remarkable for the highest quality, coarseness being conspicuous by its absence, and the arrangements all over the show leaving little to be desired.

Gold medals were awarded: to the Right Hon. J. Chamberlain for a miscellaneous collection of flowers and plants; to Messrs. Sutton & Sons for a collection of Potatoes; to Mr. J. Crook for floral displays.

Silver medals were awarded: to Messrs. W. & J. Brown for a collection of fruit; to Messrs. R. Smith & Co. for a collection of fruit and plants; to Messrs. Thomson & Co. for a collection of vegetables and for a collection of flowering plants and Ferns; to Messrs. Webb and Son for a collection of vegetables and for a collection of Primulas, Gloxinias, Begonias and Ferns; to Messrs. Pewtress Bros. of Tillington for a collection of Apples; to Messrs. W. Clibran & Son for a collection of single Chrysanthemums, Salvias and Strawberries in pots; to Mr. H. Deverill of Banbury for a collection of Onions; to Messrs. Yates and Sons for a collection of vegetables; to Mr. W. B. Child of Acocks Green for a collection of cut flowers and hardy flowering plants; to Mr. W. J. Godfrey of Exmouth for a collection of Chrysanthemums and zonal Pelargoniums; to Messrs. Hewitt & Co., Pope & Son, and R. Smith & Co. for a collection of hardy shrubs; to Messrs. Pope & Son and Mr. J. Hughes for floral displays; to Messrs. T. Rivers & Son for a collection of fruit.

Bronze medals were awarded: to Messrs. Isaac House & Son for a collection of Violets; to Messrs. G. Boyes & Co. for a collection of Carnations; to Mr. C. E. Stracham for a collection of Onions; to Messrs. Gunn & Sons for a collection of cut Chrysanthemums; to Mrs. H. A. Burberry for a collection of Orchids and other cut flowers; to Messrs. G. Bunyard & Co. for a collection of Apples.

Bournemouth, November 7th and 8th.

THE fourteenth exhibition was held in the Winter Garden of the Hotel Mont Dore. The Chrysanthemums, Japanese blooms especially, were highly developed, and throughout the classes were well contested. The principal class in the open division was for thirty-six Japanese Chrysanthemum blooms, not more than two of any one variety. This brought an excellent competition, the first prize being won by Mr. A. J. Allsop, gardener to Viscount Portman, Blandford. It was a very fine stand of flowers, large and highly coloured. The sorts were Mary Molyneux; fine; Australian Gold, Vivian Morel, Edith Tabor, Duke of York, Madame Gustave Henry, premier; Mrs. Barkley, Etoile de Lyon, Madame G. Henry, Phœbus, Mrs. J. Lewis, Mr. Hume Long, Mrs. J. Lewis, Matthew Hodgson, rich; Madame L. Brossillon, Edith Dashwood, Madame Carnot, Surpasse Amiral, N.C.S. Jubilee, Mrs. Mease, Robert Powell, good; Nelly Pockett, M. Chenon de Léché, Le Grand Dragon, Swanley Giant, Australian Gold, Australie, Madame Carnot, Charles Davis, Mrs. Coombes, Le Grand Dragon, G. J. Warren, Australie, Mrs. Coombes, Phœbus, Swanley Giant. A good second was Mr. G. Hall, gardener to Louisa, Lady Ashburton, Melchet Court Romsey, who had grand flowers of Edith Tabor, M. Chenon de Léché, Nelly Pockett, Mr. T. Carrington, Mrs. H. Weeks, Edwin Molyneux. Third, Mr. W. Neville, gardener to F. W. Flight, Esq., Twyford, with a capital stand of even blooms. For a dozen blooms Mr. Allsop was again first, Mr. Hall second; third Mr. F. J. Ellis, gardener to A. J. Taylor, Esq., Parkstone, the varieties being a repetition of the above named. Six flowers of one variety attracted some fine stands, the beautiful white Madame Carnot placing Mr. H. Mills, gardener to Mrs. Rodgett, Wareham, at the head; Mr. H. J. Harvey, gardener to A. B. Sheridan, Esq., Dorchester, following with Edith Tabor; and third Mr. W. J. Grace, gardener to W. R. Neave, Esq., Fordingbridge, with Madame Carnot. The class for four vases, each to contain five Japanese sorts, distinct, contained magnificent blooms, Mr. Allsop came first with Australian Gold, Madame G. Henry, Swanley Giant, Madame Carnot. In the second prize lot of Mr. L. J. Newell, gardener to W. H. Doré, Esq., Branksome Tower, Australian Gold was noted as fine as we have seen the variety.

Twelve incurved blooms was a well filled class, Mr. Neville leading with handsome specimens of Madame Ferlat, Hanwell Glory, Mrs. R. C. Kingston, Topaze Orientale, C. H. Curtis, Yvonne Desblanc, Lucy Kendall, Mrs. S. Coleman, Princess of Wales, Mayor Matthew, Miss M. A. Haggas, Lord Wolsley; Mr. Hall second, and Mr. Grace third. The premier incurved was found in an otherwise unhonoured box sent by Dr. E. A. Kirby, a bright coloured flower of C. H. Curtis. The cut blooms in the classes restricted to local growers brought excellent specimens. Mr. G. Taylor, gardener to Mrs. Douglas, Wimbourne, led in a dozen; second, Mr. Newell; third, Mr. H. Mills. There was but one group in the open division—100 square feet—but that of Mr. H. Haskins, Branksome, was well worthy of the first prize.

Some splendid Grapes came from Mr. W. Mitchell, gardener to J. W. Fleming, Esq., Chilworth Manor, Romsey, who won with both black and white; second in black was Mr. Grace, and in white, Mr. Harvey. The first-named exhibitor led in the open vegetable class; second, Mr. Newell. Other notable exhibits were the first prize bouquet, and shoulder sprays of G. Watts & Sons, Bournemouth, and the vegetables competing for special prizes offered by Messrs. Sutton & Sons, as well as by Mr. John Swaffield, Bournemouth. The winner in both instances was Mr. S. Horlock, Upper Parkstone; second, Mr. Newell.

Bromley, November 7th and 8th.

THE nineteenth annual exhibition of the Bromley Chrysanthemum Society was held in the Grand Hall on the above dates. The main feature of the show was the cut bloom section, including those staged in vases, as well as on the orthodox boards. Groups of plants and Chrysanthemums added variety and enhanced the general effect. Both fruits and vegetables were exhibited in considerable numbers and of excellent quality. Speaking generally, the entire show was quite equal to any of its predecessors, and the arrangements, in the hands of Messrs. W. Weeks and H. Edger, were admirably carried out. Amateurs showed very creditably. We subjoin the names of the winners in a few of the principal classes.

The class creating most interest is that for forty-eight blooms, twenty-four Japanese and twenty-four incurved, in not less than thirty-six distinct varieties, and for which a challenge cup, value 10 guineas, and £4 are offered as the premier prize. The coveted award was secured by Mr. C. Payne, gardener to C. J. Whittington, Esq., Elmstead, Bickley, who staged magnificent flowers, particularly of the Japanese section. The varieties were G. J. Warren, Chas. Davis, Phœbus, H. Weeks, Simplicity, Mrs. Barkley, Mrs. H. Weeks, J. Bidecove, Queen of the Exe, Lord Ludlow, Mdle. Thérèse Rey, Mrs. J. W. Barks, Australie, Le Grand Dragon, Mrs. White Popham, Mrs. W. Mease, Pride of Madford, Edith Tabor, Mrs. Coombs, Oceana, Ed. Molyneux, Madame Carnot, Lady Hanham, and Mrs. J. Smith, Japanese. The incurved were Chrysanthème Bruant, Madame Ferlat, Miss M. A. Haggis, Lady Isobel, Mons. Desblanc, Bonnie Dundee, Hanwell Glory, Robert Petfield, Jeanne d'Arc, Nellie Threlfall, Globe d'Or, C. H. Curtis, Countess of Warwick, Topaze Orientale, Pearl Palace, Miss Annie Hill, Duchess of Fife, and Hanwell Glory. Mr. J. C. Poole, gardener to A. G. Hubbuck, Esq., Elmstead Lodge, Bickley, was

an excellent second with splendid incurved as well as Japanese. A few of the best were Mrs. H. Weeks, Le Grand Dragon, Mrs. G. W. Palmer, Lady Hanham, Joseph Chamberlain, Mdle. Gabriel Debrie, Chas. Davis, Mrs. Mease, Duchess of Fife, C. H. Curtis, Pearl Palace, Princess of Wales, and Golden Empress. Mr. L. Budworth, Horticultural College, Swanley, was third, and Mr. E. Dove, gardener to H. C. Foy, Esq., Bickley Hall, fourth.

In the class for nine vases of Japanese, three blooms in each, six exhibitors faced the judges, and each one showed grand flowers. Mr. C. Blick, gardener to Martin R. Smith, Esq., was first with a superb set; Mr. E. Dove was a very close second, and Mr. C. Payne a creditable third.

Mr. J. Lyne, gardener to H. F. Tiarks, Esq., Foxbury, Chislehurst, was first in the class for twenty-four distinct, twelve Japanese and twelve incurved, with a grand exhibit of both sections. Some of the best Japs were Mrs. H. Weeks, Simplicity, J. C. Clayton, Vivian Morel, Pride of Exmouth (superb), Mrs. W. Seward, Mons. Chenon de Léché, and A. G. Miller; the pick of the incurved included Madame Ferlat, Hanwell Glory, Major Bonaffon, Mrs. R. C. Kingston, and Duchess of Fife. Mr. L. Budworth was a good second, and Mr. C. Payne third. There were six competitors in this class. Messrs. J. Lyne, J. C. Poole, and Mr. W. Pascoe, gardener to Capt. Farren, were respectively first, second, and third for eighteen blooms, six each of Japanese, incurved, and reflexed.

Five growers staged in the class for twelve incurved, distinct, and Mr. J. Lyne again secured the premier award. The varieties comprise Mrs. R. C. Kingston, C. H. Curtis, Duchess of Fife, Hanwell Glory, and Madame Ferlat amongst others. Mr. J. C. Poole was second and Mr. L. Budworth third. In the class for six blooms of C. H. Curtis there were ten exhibitors, and some superb examples were shown. The prizewinners were Messrs. T. Couldrey, jun., gardener to W. Watson, Esq., Grove Park; C. Croker, gardener to W. Rogers, Esq.; and Mr. Knapp, gardener to F. W. Amsden, Esq., in the order in which the names are here given. Mr. C. Payne was first for six blooms, any incurved, with Hanwell Glory; Mr. J. C. Poole second with Duchess of Fife, and Mr. G. B. Lees third with Lady Isobel. Ten stands of six Japs, one variety, were shown, and Mr. F. J. Taylor, gardener to F. Liebrich, Esq., was first with Phœbus, Mr. R. Tapper, gardener to Sir Samuel Scott, Sundridge Park, Bromley, was second with splendid blooms of Swanley Giant, and Mr. C. Blick third with Edith Tabor.

Two growers arranged groups of Chrysanthemums, and Mr. G. Brister, gardener to F. Charlesworth, Esq., East Hill, Bromley, was first, and Mr. E. Dove second. For a group of miscellaneous flowering and foliage plants Mr. J. Lyne was a grand first with a most pleasing arrangement of excellently grown and selected plants; Mr. G. B. Lees was second, and Mr. J. Taylor third.

Cambridge, November 7th and 8th.

THE Cambridge Horticultural Society was established as long ago as 1824, and if from that date its managers were as active as at the present moment an immense amount of good must have been done to the gardens of the town and the surrounding country. The annual Chrysanthemum and Fruit Show was held in the Corn Exchange on Wednesday and Thursday, and in both departments was an unqualified success. The fruit section is comparatively modern, and this year was a most unqualified success in every class. The district is, of course, one in which much excellent fruit is produced, and if growers will support the Society as they should do, the fruit display should eventually become one of the best in the country. Chrysanthemums, too, were handsomely shown. Much of the society's present prosperity is due to the exertions of the hon. secretary, Mr. Arthur Matthew, who is aided by Mr. H. E. Fordham and a strong committee.

Plants of Chrysanthemums do not make a strong feature of the show, and might well receive more attention from growers. There were three circular groups competing for a premier prize of 5 guineas, and Mr. A. Matthew was placed first with an arrangement that showed well from all sides; the flowers were of good average quality. Messrs. Hobday & Son were second. Dinner tables were not so artistic as we might have expected. Mr. P. L. Hudson was first, and Mr. Bester second.

There was an open class for thirty-six Japanese, distinct, and four growers staged. The blooms were of great excellence throughout, especially in the premier stand, which was shown by Mr. H. Edwards, gardener to Alderman W. Bond, Cambridge. Some of the best varieties were Madame Carnot, Phœbus, Edith Tabor, Lady Hanham, Mrs. Coombes, Le Grand Dragon, Chas. Davis, Australie, and Mrs. H. Weeks. Messrs. Hobson & Son were second with Mr. T. Carrington, Emily Towers, Australian Gold, Vivian Morel, and Mrs. W. Mease as their best; and Mr. J. Linton, Buckden, with an even stand of small flowers was third. The last named was a splendid first for twenty-four incurved in not less than eighteen varieties. The best were Ma Perfection, C. H. Curtis, Duchess of Fife, Topaze Orientale, Emile Nonin, Miss M. A. Haggis, Violet Foster, and Princess of Wales. Messrs. Hobday and Son were second.

Messrs. W. Bond, E. B. Foster, and W. A. Briscoe were the most successful for twenty-four Japanese, distinct. Mr. Alderman Bond was also first for twelve Japanese, distinct. Messrs. Hobday & Son were second, and Mr. W. Dobbs third, the latter showing small refined

flowers. For six Japanese, distinct, Mr. A. Matthew was first with Madame Carnot, Hermann Kloss, Mrs. W. Mease, Col. W. B. Smith, Miss Nellie Pockett, and Mrs. J. Bryant. Messrs. Hobday & Son were second, and Mr. Alderman Bond third. The last named staging Madame Carnot in fine form was first for six white Japanese. For six any other variety Mr. W. Dobbs was first with Mons. Chenon de Léché; Mr. J. Linton second with Mrs. W. Mease, and Alderman W. Bond third with the same variety.

Mr. W. A. Briscoe was first for twelve incurved, distinct, with an even stand, including Lady Isobel, Orange Perfection, Mr. A. Hills, Mrs. R. C. Kingston, and Bonnie Dundee. Messrs. Hobday & Son were second. This position was maintained for six incurved. For six blooms any white incurved, Mr. W. A. Briscoe was first, and Mr. Alderman Bond second, both showing Madame Ferlat. For six any other incurved Mr. Alderman Bond was first with C. H. Curtis in typical form, and Mr. W. Dobbs second with smaller examples of the same variety.

The quality of the fruit was so high, and the competition so keen, that we are giving particulars of one or two classes. For twelve dishes, six cooking and six dessert, Mr. J. H. Ridgewell was first with Cox's Pomona, Peasgood's Nonesuch, Emperor Alexander, Beauty of Kent, Stirling Castle, Newton Wonder, Adams' Pearmain, Blenheim Orange, Cox's Orange Pippin, King of the Pippins, Washington, and Worcester Pearmain. Mr. H. Hurnard, Hingham, was second; and Mr. W. A. Briscoe third. For three each, cooking and dessert, Mr. J. G. Mortlock, Histon, was first with Annie Elizabeth, New Northern Greening, Caldwell Pippin, Ribston Pippin, Cox's Orange Pippin, and Emperor Alexander. Mr. E. H. Warren was second, and Mr. J. Hutchinson third. This was a splendid class. Mr. J. Chivers, Histon, was first for three dishes dessert Apples with Allington Pippin, Cox's Orange Pippin, and King of the Pippins. Mr. J. Mortlock was second, and Mr. H. Hurnard third.

Messrs. A. Howard, H. Hurnard, and J. G. Mortlock were the prizetakers for three dishes culinary Apples. The winner staged Bismarck, Lane's Prince Albert, and Lord Derby. Mr. J. H. Ridgewell was first for a basket of cooking Apples with Newton Wonder in grand form; Mr. H. Hurnard was second with Peasgood's Nonesuch, and Mr. P. L. Hudson third with Stirling Castle. Messrs. J. H. Ridgewell and H. Hurnard were first and second for a basket of dessert Apples, both showing Cox's Orange Pippin. Pears were not nearly so well shown. Mr. G. Woodward was a grand first in an open class for Apples and Pears; Mr. J. H. Ridgewell was second, and Mr. J. W. Bukett third, both showing splendid fruits. Messrs. G. Bunyard & Co. sent a table of fruit "not for competition," and Mr. P. L. Hudson, Pampisfield, miscellaneous plants of excellent quality.

Cardiff, November 7th and 8th.

THE fourteenth show of this, the premier society, was held on November 7th and 8th, and proved one of the best in the annals of the society. The entries exceeded those of last year by over 100, and the chief points were the remarkable freshness of the blooms and the large size that ruled in the cut bloom classes. In the class for twenty-four Japanese, distinct, the chief honours went to Mr. F. W. Vallis, Bromham, Wilts, the varieties staged being Mrs. Mease, Mons. Chenon de Léché, Mutual Friend, Surpasse Amiral, Mrs. White Popham, Mrs. Barkley, Australie, Phœbus, Miss Alice Byron, Mrs. Vallis and Ellen Herkimer, two new seedlings; Pride of Madford, Madame Carnot, Le Grand Dragon, Vivian Morel, E. Molyneux, Pride of Exmouth, Nellie Pockett, Mrs. J. Lewis, Mr. Bryant, Lord Ludlow, G. J. Warren, G. W. Palmer, and Mrs. Coombs. Mr. Geo. W. Drake of Cardiff was a good second, and ran the first very close. The varieties were as follows:—T. Carrington, Madame P. Rivoire, Mrs. Barkley, Secrétaire Fierens, Mrs. Coombs, Nellie Pockett, G. Bruant, Surpasse Amiral, Mrs. L. Remy, Madame D. du Teille, Mons. Chenon de Léché, Mons. Hoste, G. W. Palmer, The Graphic, Mr. L. Remy, T. A. Compton, Mrs. Mease, Lady Hatham, Phœbus, Mrs. C. H. Payne, Princess D. Brancovar, Vivian Morel, Mutual Friend, and Chas. Davis. Third honours went to Mr. W. Treseder, Cardiff, who staged most of the above varieties.

For twenty-four incurves, eighteen varieties, the first was taken by Mr. Geo. W. Drake, Cardiff, and seldom, if ever, have better blooms been exhibited. Amongst the varieties were C. Bruant (2), Dorothy Foster (2), Violet Foster, Ma Perfection (2), Topaze Orientale, C. Curtis (2), Annie Hill, Hanwell Glory, Lady Isobel (2), Emile Nonin, Egan (2), J. Lambert, Rose Owen, Ialene, Madame de Ferlat (2), Mrs. H. J. Jones, and Mrs. N. Molyneux; second prize went to Mr. H. Pitt, Abergavenny, and the third to Mr. T. W. Swinburne, Corndean Hall, Winchcombe, Glos. (gardener, Mr. James Martin). For twelve blooms Japanese, distinct, first went to Mr. F. W. Vallis, and second to Mr. T. W. Swinburne. The decorative classes were of excellent merit. Ryecroft silver medals were awarded to Dr. Wallace for the best trained plant in the show, and to Mr. John Tabor for a group of Chrysanthemums. The N.C.S. certificate was awarded to Mr. W. Treseder, Cardiff, for the best bloom in the show, and to Dr. Wallace for the best plant. A gold medal, given by the society for best aggregate exhibits in classes 4 to 9, went to Mr. W. Treseder.

The trade were well represented, and the following special awards made:—Gold medal for collection of hardy fruit to Mr. J. Basham,

Bassaleg; gold medal for collection of Cactus Dahlias, Roses, and cut Chrysanthemums to Mr. W. Treseder; silver medals for collection of fruit to Mr. J. Watkins, Hereford, and Messrs. W. Clibran & Sons, Altrincham; silver medal for floral display to Mr. A. E. Price, Cardiff; silver medal for miscellaneous collection of plants to Mr. T. Clarke, Whitechurch; and bronze medal to Mr. J. Ellis.

Putney and District, November 8th.

FOR twenty-three years the annual shows of this society have proved occasions of great public interest in the populous neighbourhood embracing Putney, Roehampton, and Wandsworth. This year the exhibition was displayed in the Town Hall, Wandsworth, and the entries, for both blooms, specimen plants, and groups, were considerably in advance of last year. It was an excellent show, admirably arranged under the supervision of the able secretaries, Messrs. McLeod and Reynolds.

With collections of not less than twenty varieties of Chrysanthemums there was spirited competition, the prizes being won in the order named by Messrs. Martin, Chandler, Carter, and Peters. Messrs. Mynett, Bentley, Smith, Anderson, and Dark distinguished themselves in the specimen plant classes, as well as with highly meritorious stands of cut blooms. Table plants, Ferns, Primulas, and Solanums imparted diversity, Messrs. Hutton, Goddard, Dark, Pett, Navell, McGregor, and Mynett being among the more successful exhibitors. Apples, Pears, and Grapes were well represented by Messrs. Smith, Pett, Haynes, Prentice, and Spark, the leading prizewinners.

At the luncheon Mr. G. A. Pitt, the late treasurer and an active supporter of the society, was presented with a framed illuminated testimonial for his valuable services. It was signed by the committee and read, "We, the undersigned, by the presentation of this address, desire to record unanimously and permanently our appreciation of your services as an earnest and disinterested member of the executive body of this society for the past twenty years, and we wish also to express our deep sense of gratitude for the manner in which, as honorary treasurer, you have contributed socially and financially towards the success of the society, and while regretting the loss of an enthusiastic member, one on whom the society's most onerous responsibilities have fallen, we beg to offer you our best and sincere wishes for your future welfare and happiness." This was suitably acknowledged. Dr. Longstaffe, the president, made some apposite remarks; after referring to the beautiful display, he said he had noticed in the hall some retarded Lilies of the Valley, which had by the gardener's skill been made to bloom now instead of earlier. He hoped that would not be done with regard to Chrysanthemums, for he considered their greatest charm was that they came at the time when they were most wanted. He hoped the cultivators would not exercise their ingenuity in forcing or retarding the Chrysanthemum, because dingy November was an ideal time for its appearance; and dingy smoky London an ideal place for it. He then declared the show open.

Weybridge, November 8th.

THE second autumn show of the Gardeners' Mutual Improvement Society of this town was held in the Village Hall, and it was in every way an advance upon the first attempt. The groups were especially good, and the cut blooms numerous as well as large and well coloured. Mr. J. Lock, gardener to C. Swinfen Eady, Esq., Q.C., was in evidence throughout the exhibition, his productions being in each case of a high order.

The group which won for Mr. Lock the first prize had taste in arrangement as well as fine blooms; second, Mr. E. Watford, gardener to A. J. Rhodes, Esq., scarcely less fine. Both had a groundwork of foliage, and the smaller types of Chrysanthemums, with the larger blooms raised in an effective manner. The only open class was for twelve distinct varieties of Japanese Chrysanthemums, three blooms of each, with any foliage. Here Mr. T. Stevenson, gardener to F. S. Holland, Esq., Woburn Place, won with a capital exhibit; second, Mr. Lock. The former had the better variety of colours as well as brighter foliage. With twenty-four Japanese blooms the latter led, having Nelly Pockett, Eva Knowles, Mrs. W. Mease, and Madame Carnot, particularly good, among others; second, Mr. Stevenson. The only exhibitor in a class for eighteen incurved was Mr. Lock, who had a nice stand. For half a dozen flowers of any Japanese sort Mr. T. Caryer, gardener to A. G. Meissner, Esq., was first with magnificent Mrs. H. Weeks. The blooms incurved and had petals of extra width. This exhibitor had also a very fine half dozen Begonia Gloire de Lorraine, which were first in a well-contested class. Another fine exhibit was the half-dozen incurved blooms, Topaze Orientale, of Mr. W. Shute, gardener to F. Machin, Esq., who came first in twelve Japanese as well. Mr. Lock took the lead in table plants with nice specimens; second, Mr. Stevenson, who turned the tables on the former with a collection of vegetables.

For a table decorated with flowers and fruits Mr. Lock led; and also for Grapes, both black and white, as well as for a collection of Apples. The first prize Pears came from Mr. Watford, followed by Mr. Stevenson, both showing well.

Windsor, November 8th.

QUITE the best of the ninth annual autumn exhibitions was that held on the date named in the Albert Institute. If the entries continue to increase a much larger site will be required in the near future, or the prize schedule will have to be limited, as space cannot even now be found to do justice to the excellency of the exhibits. The arrangements were, as usual, excellent under the able guidance of Mr. Finch, the hon. secretary, and an efficient committee.

Groups of Chrysanthemums interspersed with foliage plants were the feature of the show. A challenge cup, along with a good cash prize, was the chief inducement. Seven competed, and as all were meritorious the display was most satisfactory. Mr. W. Cole, gardener to Mrs. Foster, Clewer Manor, Windsor, gained the coveted award with an exhibit that little fault could be found with. The plants were dwarf, well clothed with foliage, carried good blooms, and, what is of equal importance, were so arranged that all could be seen, no crowding being perceptible. Foliage plants, too, were judiciously employed, making it a meritorious display. Mr. W. Skeet, gardener to Sir D. Gooch, Clewer Park, Windsor, was second. Mr. Lane, gardener to Miss Durning Smith, King's Ride, Ascot, a good third. Groups of miscellaneous plants arranged for effect were meritorious. Mr. Thurlby, gardener to R. Buckworth, Esq., was the most successful. Orchids were capitally displayed. Mr. Lane and Mr. J. Cowie, gardener to Sir J. Lucas, Bart., followed for second and third places with meritorious exhibits.

Cut blooms were provided for by seventeen classes, and as the competition was good in most cases an excellent display was made. A challenge cup with the first cash prize was offered for twenty-four distinct varieties, half to be incurved and the remainder Japanese; strange to say but two competed. Mr. Lane secured the coveted award with full solid blooms of the following—Japanese: Madame Recurva, Mr. A. G. Miller, Le Grand Dragon, Nellie Pookett, Beauty of Teignmouth, Australie, Lady Hanham, Mutual Friend, Mrs. Mease, M. Hoste, M. Marius Picard, and President Nonin. Incurved: Mrs. N. Molyneux, Princess of Wales, Mrs. Coleman, Madame Ferlat, Mrs. H. J. Jones, Lord Alcester, C. H. Curtis, Bonnie Dundee, Mrs. R. C. Kingston, and Mont Blanc. Mr. E. J. Wilmot, gardener to Rev. R. C. Radcliffe, second. For twenty-four incurved in not less than eighteen varieties, there were five competitors, and as all were creditable a good display was made. Mr. A. Sturt, gardener to N. L. Cohen, Esq., was an easy first with grandly developed specimens of the following:—Mrs. H. J. Jones, C. H. Curtis, extremely fine; George Haigh, Miss D. Foster, Golden Gem, Duchess of Fife, Miss V. Foster, Ma Perfection, good; Princess of Wales, Queen of England, Perle Dauphinoise, Lady Isobel, W. Tunnington, Hauwell Glory, Topaze Orientale, Mrs. R. C. Kingston, Ernest Cannell, and Empress of India. Mr. G. Lane second with smaller but neat blooms; Mr. F. J. Paul, gardener to Miss Bowring, a good third.

Mr. Foskett annexed the premier award somewhat easily for twelve Japanese with an even stand of high-class blooms; Mr. J. Gutteridge, gardener to Mrs. Romaine, second. Mrs. Mease won for Mr. Sturt the premier award for six Japanese, any one variety, with full solid blooms, Mr. Lane following with Nellie Pookett; Mr. G. Weeks, gardener to G. Campbell Giffard, Esq., third with small but good specimens of Mrs. Mease. For six any one variety of incurved Mr. Sturt was the most successful with Ma Perfection in faultless condition, Mr. A. Hanthou following with Lady Isobel. For three blooms of six varieties, to be staged in vases with Chrysanthemum foliage only, there was keen competition and a pleasing display. Mr. Sturt annexed the leading award with full solid blooms of Phœbus, Mr. T. Carrington, Madame Carnot, Oceana, Fair Maid, and Mrs. Mease; Mr. Lane second; Mr. A. Hanthou third. A new class was provided for Japanese blooms in eighteen varieties, distinct, to be arranged in a space of 5 feet by 3 feet with foliage plants, to illustrate the decorative value of the large blooms. Five competed, making a satisfactory display. Mr. Sturt was once more successful in winning the leading award with full-sized solid blooms of popular varieties, thinly arranged on a base of Ferns with a few light Crotons for relief; Mr. W. Cole second. The last-named secured the leading award for twelve Anemone blooms with full centred examples of well-known sorts.

Amateurs added considerably to the beauty and interest of the show by the number and quality of their exhibits. Space forbids more than a mere passing notice. Mr. Young, Windsor, won the premier award for a group of Chrysanthemums, and a grand display it was in every respect. For twelve blooms, any varieties, and for six Japanese, Mr. Young also secured the premier place with distinctly creditable examples. Mr. A. Sainty and Master C. G. Colville were also successful in these classes. Mr. Young won the award for the premier bloom in the amateurs' division with a well developed specimen of Mrs. Weeks, a like honour falling to Mr. Sturt in the open classes for a superb example of C. H. Curtis. Double Violets in pots, Begonia Gloire de Lorraine, Solanums, fruit and vegetables, were all thoroughly well represented. Mr. Titt, Windsor, had a remarkably fine display of floral designs, consisting of wreaths, &c., all made up with much taste.

Altrincham, November 9th and 10th.

THE above society held their fifth annual show in the Drill Hall, Peel Causeway. In the six staged groups the first prize was awarded to Mr. Jonison, gardener to Watson Baxter, Esq., Earlscliff, Bowdon, for a group consisting of most perfect blooms. The second prize exhibit was a close one, and well arranged, of Mr. F. Leah, gardener to Sam Thompson, Esq., Brentwood, Altrincham. Mr. J. Holbrook, gardener to Sir W. Pollitt, Fernlea, Bowdon, came in a capital third; and Mr. J. Smith, a master joiner of Moss Cottage, Bowdon, an admirable fourth. Mr. J. Ashbrook, gardener to W. B. Edmondson, Esq., Brooklands, won the prize for a decorative group, and also that for six vases out of an enormous competition. The groups were of the finest, and no one could have wished for anything smarter than those staged by Mr. H. Mottram, gardener to Messrs. Inmans & Walmsley, The Priory, Bowdon, the best varieties being Graphic, Mons. Louis Remy, Mrs. J. Lewis, Gustave Henry, Pride of Madford, Lord Ludlow, Vivian Morel, Lady Ridgway, Australie, Chrysanthemiste Bruant, Madame Ferlat, Charles Curtis, Lady Isobel, John Lambert, Empress of India, Ernest Cannell, Countess of Warwick, and Globe d'Or. Mr. S. Vicars, gardener to James Lamb, Esq., Bowdon, was a most respectable second.

For twelve Japanese, and for twelve incurved, Mr. Mottram was really first-class, and would have held his own against all comers. Messrs. Clibran & Son of Altrincham showed beautiful singles, Japanese and incurved, Gloire de Lorraine Begonia, and other plants. An admirable stand of Mr. Pockett's new varieties of Chrysanthemums came from Mr. Wells of Earlswood, W. R. Church, a grand broad-petalled Japanese of the richest maroon with gold margin, and Charles Longley, a deep magenta, receiving certificates.

Eccles, November 9th and 10th.

A FAMILIAR figure has been removed from the committee of this prosperous society by the death of Mr. H. Huber, the late secretary, to whose genial and kindly disposition many a worthy tribute was paid by his old colleagues on Saturday last, at the fourteenth annual show, held in the Town Hall.

To speak of it as being equal to former occasions would be wide of the mark, for the many Liverpool growers who have helped to make the show were entirely absent, and it fell to the lot of that excellent grower, Mr. J. Kirkman, gardener to J. Stanning, Esq., Leyland, to win outright the valuable silver cup presented by Mrs. J. F. Wilkinson, and the good money prize also. In this exhibit the darker shades of Japanese were almost entirely absent. Graphic, Mrs. W. H. Lees, R. H. Langton, Swanley Giant, Mrs. Mease, Mrs. White Popham, Mrs. Coombes, Madame Gustave Henry, Charles Davis, Vivian Morel, J. R. Upton were the Japanese; and the incurved Perle Dauphinoise, Lady Isobel, Topaze Orientale, Madame Ferlat, H. J. Jones, Ialene, Chrysanthemiste Bruant, Major Bonaffon, Countess of Warwick, Globe d'Or, James Agate, and General Symons. In the class for twenty-four miscellaneous Mr. J. R. berts, gardener to Miss A. Lightbown, came first with a very handsome stand of Anemones. In the best bloom class for N.C.S. certificate Mr. Kirkman won with a splendid Vivian Morel. For twelve cut blooms, incurved, Mr. S. Ollier, gardener to F. Ashworth, Esq., Knutsford, staged most creditably; Lady Isobel, Madame Ferlat, Queen of England, and Baron Hirsch were excellent. Mr. A. F. Foden, gardener to A. R. Thorp, Esq., Newton-le-Willows staged twelve extra good Japanese, Eva Knowles, Mr. Carrington, Pride of Madford, and Robert Powell being of the finest form and colour.

A new introduction was the class for eighteen large flowered with their own foliage in six varieties. In this Mr. G. Weaver, gardener to R. Gorton, Esq., Eccles, was the winner. For six incurved and six Japanese Mr. J. Wainwright, gardener to A. Cross, Esq., Pendleton deserved the utmost credit, especially for the blooms—Madame Gustave Henry, Charles Curtis, Mrs. White Popham, and Lady Isobel. Mr. Wainwright also took the prize in the classes for six of each. In the district and amateur section, Mr. J. Guilford, Patricroft, with blooms arranged in vases was superior to the exhibit in the open class, and the prize was a really smart win. A very handsome silver challenge cup, presented by the late Henry Lightbown, Esq., J.P., Pendleton, was worthily won by Mr. J. Atherton, Swinton, and Mr. J. B. Wroe, Patricroft, won yet another class for blooms staged in vases. For nine, six, and six, Mr. T. Mulloy, gardener to Thomas Harker, Esq., had plants that would have been invincible in any competition, and he also had the distinction of winning the silver medal of the N.C.S. Mr. Powell won with three, and Mr. G. Weaver also with three grand Pompons.

Sheffield, November 9th and 10th.

THE sixteenth show of the Sheffield Chrysanthemum Society was held in the Corn Exchange, and it is not saying too much when it is stated that it has never been equalled, and may never be excelled. The quality of the cut blooms, and the arrangements of the exhibits, left nothing to be desired, and gained the highest admiration of the judges in this respect.

In the cut bloom open class, twenty-four incurved and twenty-four Japs, nine exhibitors staged full boards; these of themselves were quite sufficient to make a good exhibition. In the twelve also, although not quite so numerous, the blooms again showed quality. In the district

class, limited to growers residing within twenty miles, the competition for twelve was very keen, and caused the judges to fully exercise their undoubted abilities. The amateur and cottager classes were also well represented, in fact this is the great feature of the Sheffield Society, nearly 350 blooms being staged in this class alone. In the class for Glenny, Rundle, and Dixon, fourteen exhibitors staged two blooms of each, which for beauty and neatness of dressing could hardly be excelled. The groups were well represented and artistic in arrangement. The class for decorative fireplace showed six entries, and the arrangements of all were light, graceful, and charming. The classes for vases were also well represented, and some good arrangements were staged. Bouquets also were extremely good, whilst the Grapes were of very high quality, and well coloured.

In the open class for twenty-four incurved blooms, not less than eighteen distinct varieties, the first prize was won by J. D. Ellis, Esq., of Worksop (gardener, Mr. A. Alderman). His back row consisted of Ernest Cannell, Madame Ferlat, Mrs. T. Wood, Ma Perfection, Mrs. A. Hill, Mrs. N. Molyneux, Perle Dauphinoise, and Mrs. H. J. Jones.

Middle row: Ma Perfection, Mrs. R. C. Kingston, Miss V. Foster, Ernest Cannell, C. H. Curtis, Mrs. H. J. Jones, Madame Ferlat, Miss A. Hill. Front row: John Doughty, Empress of India, C. H. Curtis, Henry Ellis, Hanwell Glory, Her Majesty, Golden Empress, Major Matthew. The second prize fell to Dowager Lady Hindlip (gardener, Mr. C. Crooks), whose best blooms were Topaze Orientale, Duchess of Fife (2), and Nellie S. Trelfall. J. Colley, Esq., of Worksop (gardener, Mr. C. Scott), was a good third, there being very little to choose between his blooms and those of the second prize-winner. Fourth prize, Mr. J. H. Goodacre. In the twelve incurved Mr. James of Coton House, Rugby, was first, his best flowers being Miss A. Hill and Perle Dauphinoise. Second, Mr. H. Cook; and third, Mr. Goodacre. In the open class for twenty-four Japanese Mr. Vallis, Bromham, Chippenham, was easily first; his blooms were exceptionally fine and even, all being heavy. His back row was Phœbus, Mrs. Mease, Australie, Le Grand Dragon, G. J. Warren, Calvat '99, Mrs. Mease, Surpasse Amiral. Second row: Edwin Molyneux, Mrs. Barkley, Lord Salisbury, Mrs. J. Laing, Mrs. Vallis, Mrs. J. Bryant, Phœbus, and Mrs. G. W. Palmer. Front row: Mons. Chenon de Léché, Nellie Pockett, Mrs. Coombes, Mr. P. Remy, Barrett, Nellie Pockett, Mons. Chenon de Léché, and Mrs. Barkley. The second prize was awarded to the Dowager Lady Hindlip, whose finest flowers were Mrs. Barkley, Madame Carnot, and Australie. Third prize, Mr. A. James, Rugby, who showed fine blooms of Mrs. J. Lewis, Mrs. H. Weeks, and Graphic. Fourth, J. D. Ellis, Esq., Worksop. In the twelve Mr. Vallis was again first; second, Messrs. J. Fairbairn & Son, Carlisle; third, Dowager Lady Hindlip.

Groups not for competition were exhibited by Messrs. Crosland Bros., who were awarded a gold medal, and Messrs. S. W. Seagreave. Mr. Artindale obtained silver-gilt medals. Messrs. Baxter, Cocks, and Co. of Dorrington, Lincolnshire, were also awarded a silver-gilt medal for a fine collection of Apples, eighty-six varieties. Mr. Deverill of Banbury also obtained a silver-gilt medal for a fine collection of Onions, and Messrs. House & Son of Westbury-on-Trym were awarded a bronze medal for a collection of Violets. Mr. Wells of Earlswood also staged three boards of Japs not for competition.

Leeds, November 13th and 14th.

THE annual Chrysanthemum, Fruit, and Vegetable Exhibition of the Leeds Paxton Society opened in the Town Hall on Tuesday, and was not favoured with bright weather, and it was practically impossible to see the full beauty of the flowers. The Japanese blooms ranged very high in quality throughout, as in fact did all sections. There were only two groups of Chrysanthemums and four of miscellaneous plants, but all were fine. Fruit and vegetables were not extensively exhibited, but many of them were conspicuous for good culture. The arrangement of the classes was good, but there was considerable delay in commencing to judge.

Open Classes.

In the class for a group of miscellaneous plants, arranged for effect in a space not exceeding 100 square feet, there were two competitors, of whom Mr. Townsend, gardener to E. B. Faber, Esq., Belvedere, Harrogate, was placed first. Handsome Crotons, Odontoglossums, Palms, Chrysanthemums, and other flowers were skilfully combined. Mr. Eastwood, gardener to Mrs. Tetley, Fox Hill, Weetwood, was second with a duller arrangement. For a group of Chrysanthemums 7 feet by 10 feet, with not more than six foliage plants in addition to Ferns, Mr. Eastwood was an easy first for a group containing grand blooms of several of the leading varieties. Mr. J. Pettinger, Harrogate, was placed second with a stiffer group of inferior flowers. Prizes were also offered in this section for table and other plants and for pots of Roman Hyacinths, and some splendid exhibits were staged.

The premier cut bloom class was for thirty-six, half Japanese and half incurved, distinct. The first prize took the form of a 7-guinea challenge cup and 7 guineas in cash. This very handsome award was won by Mr. Dawes, gardener to Lord Trevor, Brynkinalt, Chirk, who was in magnificent form. The Japanese were Mrs. C. H. Payne Mrs. W. H. Lees, Mrs. J. W. Barks, Madame Carnot, Mrs. T. Carrington, G. J. Warren, Phœbus, Mons. Chenon de Léché, J. R. Upton, Master H. Tucker, Mrs. H. Weeks, Graphic, Simplicity, Chatsworth, Miss Nellie Pockett, R. Hooper Pearson, Swanley Giant, and Miss G. Pitcher, grand. The incurved made a beautifully even stand of well-built blooms. The varieties were Madame Ferlat, Lady Isobel, Chrysanthème Bruant, Perle Dauphinoise, Duchess of Fife, Topaze Orientale, Mrs. Egan, C. H. Curtis, Ma Perfection, Ialene, King of Yellows, Violet Foster, Hanwell Glory, Princess of Wales, Lucy Kendall, Mrs. Coleman, Violet Tomlin, and Mrs. N. Molyneux. Mr. J. Thornton, Drighlington, was second with rather smaller but fresh and brightly coloured flowers. The incurved were slightly more refined than those of the cup winner. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Hall, Derby, was third. There were five competitors in this class.

Mr. W. Dawes again secured the leading position for twelve incurved distinct, with heavy blooms that inclined to coarseness in one or two instances. The varieties comprised Madame Ferlat, Ernest Cannell, Topaze Orientale, Perle Dauphinoise, C. H. Curtis, Chrysanthème Bruant, King of Yellows, Mrs. Egan, Duchess of Fife, Lucy Kendall, and Mrs. Coleman. Mr. J. Thornton followed with C. H. Curtis, Jeanne d'Arc, Madame Ferlat, Miss Annie Hill, and Ma Perfection as his best. Mr. J. H. Goodacre was third.

For twelve Japanese, distinct, Mr. W. Dawes was first with a handsome stand, comprising J. R. Upton, Madame Gustave Henry, Mrs. C. H. Payne, G. J. Warren, Graphic, Ed. Molyneux, G. W. Richardson, Mrs. T. Carrington, Mrs. W. H. Lees, Mrs. J. W. Barks, Swanley Giant, and Miss G. Pitcher. Mr. J. P. Clark, Rodley, near Leeds, was an excellent second with Lord Ludlow, Simplicity, Lady Ridgway, Vivian Morel, Mons. Panckoucke, and Reginald Godfrey as his best. Mr. Eastwood was third. There were four competitors. Seven classes were provided for various forms of decoration, in the majority of which Chrysanthemums were supposed to play a prominent part. The several prizes brought forth some admirable exhibits.

Gardeners' and Amateurs' Classes.

It was curious to note that in this section there was not a single class for a group of Chrysanthemums, and this notwithstanding the fact that a silver cup was offered, with other prizes, for miscellaneous plants. We think this omission might advantageously be rectified in subsequent schedules. For the miscellaneous plants Mr. A. Gamble, gardener to M. Kitchin, Esq., Eller Close, Roundhay, Leeds, was first with a group that lacked colour, notwithstanding the fine *Cattleya labiata* included. Mr. R. Richer, gardener to J. W. Oxley, Esq., Spenfield, Weetwood, was a close second, but again there was a dearth of flowers.



FIG. 120.—CORREA CARDINALIS.

A five-guinea cup and £5 were offered as first prize for twenty-four Chrysanthemums, twelve Japanese and twelve incurved, and collections were placed before the judges. The coveted position was secured by Mr. W. Grix, gardener to Sir Jas. Kitson, Bart., Gledhow Hall, Leeds, with *Australie*, *Lady Hanham*, *Sir H. Kitchener*, *Miss Nellie Pockett*, *Madame Carnot*, *Mrs. J. W. Barks*, *G. C. Schwabe*, *Le Grand Dragon*, *N.C.S. Jubilee*, *Hairy Wonder*, *Mrs. Ritson*, and *Vivian Morel Japanese*; and *Mrs. R. C. Kingston*, *Chrysanthème Bruant*, *Lucy Kendall*, *Madame Ferlat*, *Golden Queen of England*, *C. H. Curtis*, *Lord Alcester*, *J. Agate*, *Queen of England*, *Empress of India*, and *Baron Hirsch incurved*. Mr. W. Moore, gardener to Mrs. Bowring, Allerton Hall, Gledhow, was an excellent second. The Japanese were finer than the incurved, and Mrs. White Popham, *Lady Hanham*, *Australie*, *Duke of Wellington*, and *Lady Crawshaw* were especially good. Mr. Eastwood was placed third.

In a smaller class for twelve, half Japanese and half incurved, the first prizeman was Mr. F. Moore, gardener to A. P. Baines, Esq., The Heath, Adel, who staged Japanese: *Vivian Morel*, *Madame Gustave Henry*, *Edith Tabor*, *N.C.S. Jubilee*, *Miss Nellie Pockett*, and one other; incurved: *C. H. Curtis*, *Lady Isobel*, *Madame Ferlat*, *Queen of England*, *Perle Dauphinoise*, and *Empress of India*. Mr. J. Leech, gardener to Mrs. Taylor, Buckingham House, Headingley, was second, and Mr. F. Norman, gardener to A. T. Walker, Esq., The Elms, Weetwood, third. For three incurved, three Japanese, three reflexed, and three large flowered Anemones, Mr. J. Leech, who had some excellent flowers, which were mixed on the board in a manner that much detracted from the effect. Mr. A. Gamble was second, and Mr. F. Moore third.

Mr. W. Moore was a good first for six incurved, distinct, with *Lady Isobel*, *C. H. Curtis*, *Perle Dauphinoise*, *Mrs. R. C. Kingston*, *F. Lambert*, and *Golden Empress of India*. The second prizewinner was not possessed of a name. Mr. F. Moore was third. There were four competitors. In a similar class for Japanese the prizes were annexed by Messrs. J. Leech, F. Moore, and Mr. Grix. The premier box contained *Mons. Panckoucke*, *Mrs. T. Carrington*, *Vivian Morel*, *Miss Nellie Pockett*, *Pride of Exmouth* and *Mons. Chenon de Léché*.

Mr. F. Moore was first for six Japanese, one variety, with excellent examples of *Mrs. G. Lewis*; Mr. W. Grix second with *Miss Nellie Pockett*; and Mr. R. Ward, Carlton, near Wakefield, third with *Edwin Molyneux*. For six incurved, one variety, Mr. J. Leech was first with *C. H. Curtis*; Mr. W. Grix second with *Madame Ferlat*; and Mr. W. Moore third with *C. H. Curtis*.

Mr. F. Norman was first for six reflexed, distinct, with fine examples of *King of Crimson*, *F. S. Chase*, *Mr. B. Hooke*, *Chas. Tutt*, *Miss F. Lunn*, and *Clara Jeal*. Mr. W. Moore was second. The third prizewinner was nameless. In the class for six Anemones Messrs. W. Moore, F. Norman, and W. Grix won, the winner showing excellent flowers. For six bunches of Pompons, distinct, three blooms in a bunch, Mr. F. Norman was first, and Mr. Eastwood second. Mr. W. Grix was first in a similar class for single varieties with *Daisy Brett*, *Beautiful Victoria*, *Purity*, *Salmon*, and *Earlwood Beauty*. Every flower was excellent. Mr. Eastwood was second, and Mr. F. Norman third. There were five exhibitors in this class.

Members of Leeds Paxton Society.

Though the classes were not numerous, the flowers in this section were most creditable. For three each, Japanese, incurved, reflexed, and large flowered Anemones, the first prize was won by Mr. J. Leech, who showed Japanese: *Phœbus*, *Mons. Chenon de Léché*, and *Miss Nellie Pockett*; incurved: *Madame Ferlat*, *Mrs. H. J. Jones*, and *C. H. Curtis*; reflexed: *Florence Lunn*, *Peach Christine*, and *Cullingfordi*; and Anemones *Nathalie Bunn*, *Descartes*, and *Mrs. Judge Benedict*. Mr. J. P. Clark was second, and Mr. W. Moore third.

For six incurved, distinct, Mr. W. Grix was placed first with *Mrs. R. C. Kingston*, *C. H. Curtis*, *J. Agate*, *Madame Ferlat*, *J. Lambert*, and *Lord Alcester*. Mr. W. Moore was second, and Mr. J. P. Clark third. Mr. F. Moore was first for six Japanese with *Lady Ridgway*, *Madame Gustave Henry*, *Vivian Morel*, *Royal Standard*, *Phœbus*, and *C. Davis*. Mr. W. Grix was second, and Mr. W. Moore third. There were eight competitors in this class.

In the class for six reflexed Mr. "no number" was first with *Dorothy Gibson*, *Amy Furze*, *C. Tutt*, *Sullivan*, *D. Oxberry*, and *White Christine*; Mr. W. Moore was second; and Mr. F. Norman third. In the classes for Anemones, Pompons and singles, the more conspicuous prizewinners were Messrs. W. Moore, J. P. Clark, F. Norman, Eastwood, and J. Leech.

Non-Competitive Exhibits.

Messrs. Clibran & Son, Altrincham, contributed a collection of *Salvia splendens grandiflora*, with Japanese incurved and single Chrysanthemums; the group formed a very attractive exhibit. Mr. F. C. Edwards, Leeds, was represented by *Begonia Gloire de Lorraine*, *Lily of the Valley*, and other plants. Messrs. T. Green & Son, Ltd., London, sent a number of their celebrated lawn mowers. Messrs. W. Wells and Co., Ltd., Redhill, showed two dozen Japanese blooms with some bunches of single varieties. Amongst the best Japanese were *Mrs. Barkley*, *C. J. Salter*, *W. R. Church*, *Janet*, *Lady Clarke*, *Lord Ludlow*, *Miss Nellie Pockett*, *Matthew Smith*, *M. Louis Remy*, and *Guy Hamilton*.

Correas.

THESE, "W. Raby," are very old-fashioned hardwooded greenhouse plants which flower in the late spring and early summer months. The temperature of your greenhouse will suit them admirably, and with careful attention to watering you will find them comparatively easy to grow. Though cuttings may be procured, and are not difficult to root, we should recommend you to start the culture of Correas with small plants, which can be purchased at any time, and if kept in the greenhouse through the winter will flower freely in the spring. The natural habit of these plants is rather straggling, and the growths must therefore be pinched to insure as bushy specimens as possible; it is generally necessary to loop the growths lightly to a central stake, as this much improves the effectiveness of the plants. In the summer Correas are better out of doors, but must be placed in safety before there is danger of frosts. Moderately firm soil, of which the major portion is good loam, is essential to success, with great care in watering for a few days after repotting. There are not a large number of species or varieties, and you will probably find *C. cardinalis* (fig. 120), bright red tipped with green, the most satisfactory one to grow. There are several varieties of this, and all are good. If this information is not sufficient for your requirements you must write again, and we will gladly assist you.



Hardy Fruit Garden.

Wall Trees.—*Pruning and Regulating.*—Pears, Plums, and Cherries ought to have some attention as regards the fresh disposal of the branches should the latter be too thickly placed or unduly overburdened with weak or exhausted branches.

Horizontally trained Pears require to be frequently examined, so as to avoid the upper spurs elongating and overshadowing those below them. The main branches must have a clear space between them of not less than a foot, therefore, if limited to less space at present than 12 inches, remove every other branch. By doing this the mains may have more space than they require, but this will be better than crowding. Cordons may be treated in the same way; there will then be a better chance of a fruitful condition being insured, maintained, and continued.

Fan-trained trees are readily renovated and improved, because they are easily re-arranged and regulated after cutting out weakly and exhausted branches. The lower parts of the wall may thus be kept properly furnished without much trouble, and there are always plenty of branches to fill up central parts of the trees.

Plums and Sweet Cherries admit of branches furnished with spurs, and also of shoots laid in where there is a space to be filled without unduly crowding. Good fruit is eventually borne on the young wood, and it may in a few years be cut out and replaced with fresh wood, thus keeping the trees perennially vigorous. When Morello Cherries are trained on walls the latter system of treatment may be adopted for them, though they naturally do well when the whole of the bearing shoots are composed of young growths of the preceding year. When spurs are permitted on these Cherries, they are chiefly originated by shortening growths for which no room can be found. This practice, as well as the too free laying in of young shoots, must be limited, or overcrowding will result. Peaches, Nectarines and Apricots need but little attention at the present time. If, however, any old bearing shoots remain, or partially exhausted branches, these will be better removed now. Roughly re-arrange the trees on the wall, and proceed with the final pruning in February.

Planting Young Trees.—Prior to planting wall trees trench the soil deeply, adding fresh loam and wood ashes as material for improving the position in preference to incorporating manure, though a little of the latter will be extremely beneficial to very poor soil. It is important to encourage a vigorous, though not too vigorous, growth.

Trees for walls may be two years old, clean, and healthy in growth, and of medium strength, possessing fibrous roots in fair quantity. Prune the damaged roots before planting. The bole of the trees should be placed 2 or 3 inches from the wall. Spread out the roots to their full extent in a semicircle, and do not bury them.

deeply with soil, which in covering the roots should be spread outwards from the bole. Fasten the trees to the wall temporarily, allowing them to remain so for at least two months, when they may be permanently secured. The soil naturally sinks after being moved, and the trees ought to sink with it.

Gooseberries and Currants.—Deeply prepared and liberally manured ground ought to be provided for these fruits, as they are usually strong and rapid growers which require a considerable amount of food. The vigour of growth they exhibit does not affect their ability to fruit early, providing they have a moderately open position to grow in, and the shoots become well ripened. Closer planting than 6 feet is not advisable. It is much better to have room to pass readily round the bushes than that they should meet and crowd each other. Cultural operations and the gathering of the crop are more readily carried out, while the permanent benefit derived by the bushes is incalculable.

Raspberries.—The old fruiting canes must be cut out and the number of new canes available for fruiting next season reduced in number, dispensing with the weakest. If trellises are fixed for training the growths upon, dispose the canes evenly upon them. When trained to upright stakes secure the canes round them. Shorten to the top of the trellis or stakes. Mulch the ground between heavily with rich manure, as the Raspberry requires plenty of food for its mass of fibrous roots.

New stock may be planted, but the ground should be thoroughly trenched and manured previous to inserting the plants. Medium-sized sucker growths that have abundance of fibrous roots are better for the purpose than long, strong canes, which lack those desirable roots. Spread out the roots in the soil, shortening those which are long and strong. When planting in lines they may be placed a foot apart. If in clumps arrange, three in a triangle, a foot between each, a 5-foot stake being eventually driven down in the centre. Mulch round the newly planted canes with littery manure, a heavy mulching of rich manure not being required the first season. The canes must be pruned down to within 9 inches of the ground, so as to encourage a strong growth of canes the following year, fruiting not being allowed.

Fruit Forcing.

Vines.—*Early Forced in Pots.*—Stout, well-ripened canes, with plump buds, and given a short rest, only answer for early forcing. The Vines require a light airy house efficiently heated, a lean-to or span-roof with the ends east and west being a suitable structure. A lean-to of 6 to 7 feet 6 inches width will accommodate one row of plants in front; a span-roof of 10 feet width may have Vines on both sides. If hot-water pipes are at the front of the lean-to and at the sides of the span-roof, the Vines may be stood over them, on tiles or slates. The tiles or slates become heated and transmit the warmth to the pots, which are kept more or less warm at their base, and the roots are not prejudiced by the heat. The tiles or slates throw off much of the water or liquid manure supplied to or escaping from the pots, so that there is no risk of a surfeit of steam, and the water running on the floor keeps up a genial moisture as well as supplying ammonia to the atmosphere when liquid manure is used.

Span-roofed pits or lean-to structures facing south and having sunk paths in the centre or at the back of lean-to and three-quarter span, and beds in which fermenting material may be placed, answer admirably, contingent on their having the necessary hot-water pipes to afford efficient top heat. Pedestals of loose brickwork should be formed in the beds so as to raise the pots to the requisite height and prevent sinking, as would be the case were the pots stood on the fermenting material. This is essential, whether the Vines are trained to trellis 12 to 18 inches from the glass or coiled round stakes where there is no trellis, or the Vines are required for decorative purposes when the Grapes are ripe. Vines in pots and restricted thereto afford excellent fruit by judicious feeding, but if weight and quality of Grapes are desired the apertures in the pots should be enlarged and some turfy loam placed within reach of the roots. The loam may be packed against or on top of the loose pedestals or bricks, and the roots will follow the liquid manure given, and the turf hold its manurial elements, so that the roots will send up plenty of support for the Vines.

Oak, Beech, or Spanish Chestnut leaves are the best to afford bottom heat. They produce a genial warmth and regular moisture in the early stages, and rich stimulating food when the demands of the Vines are greatest. The house must now be ready and the plants placed in position. The canes should be kept horizontally, or have the ends depressed if necessary, to insure their breaking evenly from the base upwards. Vines started from now to the beginning of next month will afford fruit fit for table in April. For early work not any is better than Black Hamburg and Foster's Seedling. White Frontignan forces well, but the fruit is small, though the quality is excellent, and Madresfield Court is one of the best forcing varieties, and first-rate in both appearance and quality.

Early Forced Planted-out Vines.—To have ripe fruit in May with certainty the house must now be closed. This more particularly applies to young and vigorous Vines, that do not, as a rule, start into growth

so quickly as those that have been forced for a number of years. This applies equally to Vines that have not previously been subjected to early forcing. To produce a soft humid atmosphere and to economise fuel, a good ridge of fermenting material may be placed on the floor or inside border, and be turned at short intervals, additions being made as the heat declines. Old Vines will not need depressing, but it is a good practice to lower them until the buds break before securing them to the trellis. This is not necessary when the Vines are spur-pruned, unless they are young, then the canes or rods will need to be brought into a horizontal or depending position, where they can be well syringed with tepid water slightly in advance of the temperature of the house. The temperature of the house may range 50° at night, 55° by day, and 65° on bright days. The outside border should be protected from wet and frost by a covering of leaves and lights, or by other approved means.



All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Manuring Asparagus Beds (G. F. O. B.).—Yes, the beds would be all the better for a good top-dressing of old Mushroom-bed manure, as it will still retain a considerable amount of fertilising substances. It is well, however, not to apply the manure in excessive amount, a couple of inches thickness, or at most 3 inches, being ample, and leaving rather rough, so that rain and air can have free access to the soil. The remains may be lightly forked in in spring, not disturbing the roots of the plants or injuring their crowns. The plants that have had the "grass" bitten off in places by hares will be prejudiced to some extent, but, as they are young, it is not likely that they will be permanently injured. True, Giant or Battersea is not the largest variety, but a good selection of it is still the most profitable, as it gives abundance of very fine heads in succession from an early to a late period, and is that most extensively cultivated for marketing. Conover's Colossal produces very large heads, but there are fewer of them than in the case of Giant. Giant Argenteil also has acquired some repute for its size, while the American variety, Palmetto, is large and very prolific.

Apple from India—Manures for Trees (A. Campbell).—The fruit packed in charcoal dust arrived in much better condition than did the one previously sent in spirits of wine; still the specimen before us is more or less pitted and shrunken in places, and not in useable condition. For this reason too some of its characters, including colour, are obscured, and it is consequently impossible to name it with absolute certainty. In external appearance it almost exactly resembles a small fruit of Queen Caroline, and this was the name proposed by three experienced judges independently of each other; but this is not a long keeping variety, while you describe yours as the "latest of all to ripen." Stamford Pippin is much later than the one named, and your specimen closely resembles a typical fruit of it in both external and internal characters (Queen Caroline differs internally), and we have had sound specimens till May. A still longer keeper with similar characters is the Gooseberry Apple, some of the smaller fruits of which are not ribbed, but others are, though obtusely. As you have Hogg's "Fruit Manual" we advise you to closely examine fresh fruits, and carefully compare with the descriptions, then you may be able to fix the identity of the variety. We suspect the Canadian authorities are right about the spot and the rupturing of the cells of your Ribstons. The fruits swelling to an abnormal size suggests an excess of humus in the soil and a corresponding deficiency of minerals. A dressing of basic slag in the rainy season might act beneficially, applying not less than 4 ozs. per square yard; if the ground is of a sandy nature mix half the quantity of sulphate of potash with the basic slag. You will then apply lime, phosphate, and potash; but strong soils often contain sufficient potash. It is useless applying the above mixture or either part of it separately, in the spring or on the eve of dry weather for producing effect the same season, as a considerable time is needed for the purpose of solubility. If you procure basic slag do so on a guarantee of genuineness as to fineness in grinding and phosphoric acid contents. If the powder is not obtainable apply superphosphate of lime very early in the spring, preceded, if thought necessary, by sulphate of potash soon after the leaves fall from the trees. Write again if you think we can give you any further information that may be helpful.

Diseased Pear (J. M. W.).—The specimen has every appearance of having been attacked, in the early stages of development, by scale. You could not err by syringing during the winter with a dilute petroleum solution, or by cleansing thoroughly with the caustic soda solution that has been so frequently recommended in our columns.

Grubs at Roots of Double Primulas (P. J. P.).—The grubs are those of the grooved or black Vine weevil (*Otiorhynchus sulcatus*), which, in the larval or grub state, is very destructive to the roots and underground parts of many plants, and, in the beetle stage, to the foliage, especially fronds of *Adiantums*. We have not known the pests to attack *Primulas* before, the grubs having eaten the base and scooped out the stem. To prevent this pest attacking the plants is extremely difficult, as it begins underground on the roots. The chief point is to look for the beetles in the early summer months, and up to about July or August, they feeding at night, and should be searched for with a lantern after dark, being very cautious, as they are easily alarmed, and fall when alarmed, shamming death for a short time. Place some white cloths or sheets of paper beneath the plants on which the beetles feed, as these being shaken the beetles drop and can readily be collected into a vessel containing some petroleum. Perhaps the beetles could be prevented depositing eggs by spraying the plants with gas tar water, an ounce of gas tar being boiled in a quart of water for about half an hour, or until it will readily mix with water, then diluting to $6\frac{1}{2}$ gallons. The spraying may be done over the whole house, stages, walls, &c., but very lightly over the plants, and about once a month, the middle of June, July, and August, three times in all. The infested plants should be turned out and cleaned of the grubs.

Cordyline Treatment where there is not a Frost-proof Greenhouse (F. E. W.).—We presume the species is one of the hardier ones, such as *C. australis*, which is that commonly grown for subtropical gardening and general decorative work, even in shops, such as those of fruiterers and also in those of butchers and grocers. In these positions the plants are subject to draughts, drying and cold currents of air, and it is astonishing how well the plants endure the ordeal, having a fresh appearance in the cold winter months. Indeed this species is hardy in warmer parts of England and Ireland, and it would succeed in the greenhouse, though not frost-proof, until the approach of severe weather, when the plants could be removed to a light room from which frost is excluded, the plant being kept on the dry side as regards the moisture of the soil, yet not so dry as to cause the foliage to wither. In the greenhouse it would not take any harm unless the weather was very severe, provided the pot was protected with dry material, such as hay or soft straw, in order to prevent the soil from freezing, or in case of that occurring, keeping the plants covered up from the sun, or in the dark until the soil has thawed. The plant, however, would be best kept over the winter in a room from which frost is excluded, assigning it a light position, and observing the conditions before alluded to as regards moisture. It would winter safely in a room window, from whence it could be transferred to the greenhouse in the spring.

Winter Cheer Carnation Diseased (W. B. T.).—The plant is badly infested—indeed, the "grass" nearly all destroyed—by the "fairy-ring spot" fungus, *Heterosporium echinulatum*. The spores are brown in colour, and when produced in great numbers, together with the threads, darken the spot upon the leaf. The spot then possesses different shades of colour, according to the number of spores produced; and as the spots run into each other the whole leaf, or a large portion of it withers, because the fungus has destroyed the tissues and abstracted their substance. The growth of the fungus from the centre of the spot is centrifugal, and the dark colour is apt to be arranged in concentric lines or rings, representing a miniature fairy ring. This fungus was first described in England on Carnations thirty years ago, and is most prevalent when the plants are kept in a close and damp atmosphere. The conditions essential to enable Carnations to resist this pest are (1) foliage free from heavy moisture, (2) free circulation of air about the plant upon all sides, and (3) an atmosphere charged at regular intervals with a fungicide. The latter may be either in the form of liquid, or in that of a powder. The three best compounds are:—1, Potassium sulphide, 1 oz. to 10 gallons of water. 2, Bordeaux mixture: Sulphate of copper, 1 lb.; lime, unslaked, 1 lb.; water, 11 gallons. 3, Ammoniacal carbonate of copper: Copper carbonate, 1 oz.; strongest ammonia, 1 pint; water, 10 gallons. Of these preparations it may be observed that the sulphide of potassium has a somewhat unpleasant smell and discolours paint, the Bordeaux mixture gives the plants a whitewashed appearance, and the ammoniacal carbonate of copper solution has the advantage of not discolouring the plants. It is probably the best of the three mixtures. The spraying should be performed about every ten days whilst the new "grass" is being made, so as to coat it with a thin film of the protected substance. After being fully developed an occasional spray will suffice to keep the pest without the plants. Instead of spraying, a fungicide in powder containing sulphate of copper may be used, such as anti-blight, fostite, and strawsonite, applying by means of a bellows apparatus. It is well to remember that the germs of the disease enter from without, through the breathing pores of the leaf. The preventive or so-called remedy, therefore, must be applied before the germs enter the plant. Above all things keep the house clean and sunny and well aired, and keep the plants up from the earth. Neglect in these respects often engenders trouble, which it is almost impossible to combat without destroying all affected plants.

Primula with Crested Leaves (W. J.).—The leaf sent is decidedly novel and attractive in appearance, the edges being beautifully crested and corrugated. We have frequently seen *Primula* leaves with a similar tendency, though in no case has the cristation been so pronounced. It is decidedly worth growing, and will form a novel addition to any collection of *Primulas*. The flowers were somewhat withered when they reached us, but appear to be of the star-shaped strain, which originated from White Lady.

Names of Fruit (G. F.).—1, Northern Greening; 2, Golden Spire; 3, Golden Knob; 4, King of the Pippins; 5, Round Winter Nonesuch; 6, Roundway Magnum Bonum. (H. J. E.).—1, Rosemary Russet; 2, Adam's Pearmain; 3, Mannington's Pearmain; 4, New Hawthornden; 5, unknown and worthless. Kindly read reply to "H. J.," page 433, last issue. (P. N.).—1, Cox's Orange Pippin; 2, Cobham; 3, Claygate Pearmain. (W. C. R.).—1, Court of Wick; 2, Hoary Morning; 3, Wellington; 4, Cellini; 5, Warner's King; 6, Gloria Mundi. (A. G.).—1, Pitmaston Duchess; 2, Maréchal de Cour; 3, Glou Morceau; 4, Easter Beurré; 5, Knight's Monarch; 6, Swan's Egg. (Edwards).—1, Ashmead's Kernel; 2, Rosemary Russet; 3, Scarlet Nonpareil. (Amy).—The large Pear is Uvedale's St. Germain, the small one Bergamotte Esperen. (D. T.).—The Apple is Alfriston.

Names of Plants (G. F. F.).—1, *Ophiopogon Jaburan variegatum*; 2, *Berberis vulgaris*; 3, *Impatiens Hookeri*; 4, *Colletia spinosa*. (A. G.).—1, *Lælia autumnalis*; 2, *Cypripedium insigne*; 3, *Pteris serrulata cristata*; 4, *P. cretica albo-lineata*; 5, *Woodwardia radicans*. (B. A.).—*Tecoma radicans*. (C. R.).—1, *Lycaste Skinneri*; 2, *Odontoglossum crispum*. (F. C. B.).—1, *Ruellia Portellæ*; 2, *Selaginella Braunei*; 3, *Adhatoda cydoniaefolia*; 4, *Geitonoplesium cymosum*.

Covent Garden Market.—November 14th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bush. ...	2	0 to 4	6	Neectarines, doz. ...	1 6 to 9 0
" cooking, bush. ...	1	6	5	Oranges, case ...	10 0 15 0
Cobnuts, doz. lb., best ...	4	0	5	Peaches, doz. small ...	1 0 2 0
Figs, green, doz. ...	0	6	0 10	" doz. good size ...	6 0 9 0
Grapes, black ...	0	6	2 6	Pears, crate ...	3 0 7 0
" white ...	1	6	3 0	" stewing, case of	
Lemons, case ...	3	0	25 0	72 to 120 ...	4 6 6 6
Melons, house, each ...	0	6	2 6	Pines, St. Michael's, each	3 0 6 0
" water, case ...	3	6	5 0	Plums, $\frac{1}{2}$ bush. ...	3 6 0 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.
Artichokes, green, doz. ...	3	0 to 4	0	Leeks, bunch ...	0 1 $\frac{1}{2}$ to 0 0
" Jerusalem, sieve ...	2	0	0 0	Lettuce, doz. French ...	1 0 1 3
Asparagus (Sprue Grass) ...	0	8	0 0	" Cos, score ...	0 6 2 0
" Paris Green ...	4	6	5 0	Mushrooms, forced, lb. ...	1 0 0 0
Aubergines ...	1	0	1 6	" outdoor, lb. ...	0 4 0 6
Beans, French, per lb. ...	0	4	0 6	Mustard and Cress, pun. ...	0 2 0 0
" Jersey, per lb. ...	0	9	0 0	Onions, Dutch, bag ...	4 0 4 6
Beet, red, doz. ...	0	6	0 0	" English, cwt. ...	5 0 0 0
Brussels Sprouts, sieve ...	1	6	0 0	Parsley, doz. bnchs. ...	2 0 0 0
Cabbages, tally ...	3	0	5 0	Potatoes, cwt. ...	3 0 7 0
Carrots, doz. bnch. ...	2	0	3 0	Seakale, best, doz. ...	24 0 0 0
Cauliflowers, doz. ...	1	0	2 0	" 2nd, doz. ...	12 0 0 0
Celery, bundle ...	1	0	0 0	Shallots, lb. ...	0 2 0 3
Cucumbers, doz. ...	1	6	3 0	Spinach, bush. ...	1 0 1 6
Endive, score ...	1	6	0 0	Tomatoes, English, lb. ...	0 2 0 5
Herbs, bunch ...	0	2	0 0	Turnips, doz. ...	2 0 3 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch	1	6 to 2	6	Maidenhair Fern, dozen	
Carnations, 12 blooms ...	1	0	3 0	bunches ...	4 0 to 8 0
Cattleyas, doz. ...	9	0	24 0	Marguerites, doz. bnchs. ...	2 0 4 0
Chrysanthemums, dozen				" Yellow, doz. bnchs. ...	2 0 4 0
blooms ...	1	0	3 0	Odontoglossums ...	3 0 4 0
Eucharis, doz. ...	2	0	3 0	Roses (indoor), doz. ...	2 0 4 0
Gardenias, doz. ...	1	0	2 0	" Red, doz. ...	1 0 2 0
Geranium, scarlet, doz.				" Safrano, doz. ...	1 6 2 0
bunches ...	6	0	9 0	" Tea, white, doz. ...	1 0 3 0
Lilac, white, bunch, ...	4	0	6 0	" Yellow, doz. (Perles) ...	2 0 4 0
Lilium lancifolium album	1	6	2 6	" English, La France, doz. ...	1 0 2 0
" rubrum ...	1	6	2 6	Smilax, bunch ...	2 0 4 0
" various ...	2	0	3 0		
Lily of the Valley, 12 bun.	6	0	15 0		

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz. ...	12	0 to 24	0	Foliage plants, var., each	1 0 to 5 0
Arbor Vitæ, var., doz. ...	6	0	36 0	Geraniums, scarlet, doz. ...	6 0 10 0
Aspidistra, doz. ...	18	0	36 0	" pink, doz. ...	8 0 10 0
Aspidistra, specimen ...	15	0	20 0	Hydrangeas, white, each	2 6 5 0
Azaleas, various, each ...	2	6	5 0	" pink, doz. ...	12 0 15 6
Boronias, doz. ...	20	0	24 0	" paniculata, each	1 0 3 0
Cannas, doz. ...	18	0	0 0	Lilium Harrisii, doz. ...	8 0 18 0
Crotons, doz. ...	18	0	30 0	Lycopodiums, doz. ...	3 0 6 0
Dracæna, var., doz. ...	12	0	30 0	Marguerite Daisy, doz. ...	8 0 10 0
Dracæna, viridis, doz. ...	9	0	18 0	Mignonette, doz. ...	8 0 12 0
Erica, various, doz. ...	8	0	18 0	Myrtles, doz. ...	6 0 9 0
Euonymus, var., doz. ...	6	0	18 0	Palms, in var., each	1 0 15 0
Evergreens, var., doz. ...	4	0	18 0	" specimens ...	21 0 63 0
Ferns, var., doz. ...	4	0	18 0	Roses, doz. ...	6 0 18 0
" small, 100 ...	4	0	8 0	Stocks, doz. ...	8 0 12 0
Ficus elastica, each ...	1	6	7 6		

Trade Catalogues Received.

Dammann & Co., Naples.—*Seeds.*
P. Lambert.—*Roses.*



Flies Injurious to Stock.

UNDER the above heading we have before us a booklet by that excellent friend to farmers, Miss E. A. Ormerod, and a most valuable instructive work it is. Seventy-eight pages are occupied by the full life history of seven kinds of insects commonly infesting animals of the farm, with reports from leading farmers, and remedies, both preventive and curative, which have been successfully used in dealing with the attacks from these flies.

A vivid recollection of the loss of two valuable young shire colts nine months old from the attack of bots in the stomach leads us to recommend all farmers to purchase a copy of this work, for it is pretty certain that the two animals referred to would have been saved if we had possessed such a book at the time, and the price is only 6d.

The horse bot fly or horse bee is a very prevalent pest, but may infest a farm for years without the occupier being aware of it, for, as Miss Ormerod says, the grubs or bots may go through the larva state in the stomach of a horse without doing it any apparent or serious injury as long as the animal be well fed; but it does not follow that the farmer receives no injury from a monetary point of view, for without these parasites sucking at and sapping its strength the young horse should have grown and thriven much better than it has done, or should have required a smaller amount of food to attain its present condition.

The bot fly lays its eggs on the hairs of the mane shoulders, or fore legs of the horse, where they can be easily reached by its tongue. The horse licks them off and they pass into its stomach, the warmth hatches them into grubs or larvæ, and in this state they attach themselves very tenaciously to the membrane of the stomach and remain there for ten months, when they loosen their hold and pass away in the dung to turn into chrysalids and again into flies.

Horses which are constantly and well groomed do not suffer much from bots, as the grooming quickly removes the eggs from the skin, and few have the chance to find their way to the animal's interior, but young horses which run out at grass practically all the year round, and are kept in a rough, ungroomed state, are very subject to them, and as we observed above, much more so than most farmers are aware; but the ill effects are not sufficiently apparent to attract attention. When, however, as in our own case, and as in that of a friend of ours, who two years ago lost 50 per cent. of a drove of young horses from this very cause, it is apparent that considerable mortality and serious money loss may ensue, it is well that owners should be sufficiently warned that there is a pest so prevalent, as well as so insidious in its action, as to be a real danger under certain conditions. These conditions are insufficient nourishment and shelter to enable the animals to keep in health in spite of the action of the grubs.

Miss Ormerod does not recommend any special remedies as qualified to expel the grubs from the horse's stomach, but turpentine 2 ozs., and linseed oil 20 ozs., is recommended by one veterinary surgeon as being worthy of a trial to be given once a fortnight. Miss Ormerod, however, advises recourse to preventive measures, such as greater attention to grooming, which would hardly commend itself to farmers with large droves of young horses in large enclosures, washings or smearings with some strong-smelling substance deterrent to the fly, and the destruction of the larvæ and chrysalids when observed in the dung, so as to minimise the chance of a recurrence of the attack.

We might here observe that when we lost the two colts another one remaining was well dosed with buttermilk, an old-fashioned and simple remedy for worms, with the result that the colt passed a considerable number of maggots, and although in a low and weak state it eventually recovered. Other injurious insects dealt with in this book are—"The Sheep's Nostril Fly," "The Sheep Tick," "The Forest Fly," "Gad Flies," "Horse Warble Fly," and "Ox Warble Fly." The latter insect has a large space devoted to it, and Miss Ormerod has evidently taken special pains in ascertaining as much knowledge as possible with regard to its extensive ravages amongst cattle. Statistics were obtained from some of the principal markets bearing on the number of warbled hides which passed through them, and it was found at Birmingham that there were 9956 sound hides to

2146 warbled; at Aberdeen, 46,273 to 14,830; and at Manchester, 83,580 warbled out of a total of 250,740, or just about one-third, and the loss from these warbled hides was estimated to be £16,716. Experts have estimated that the loss caused by the warble fly in the United Kingdom cannot be much less than £2,000,000 annually, whilst some have put the loss as high as £1 per head, or £7,000,000 to £8,000,000.

That the ox warble fly may be to a large extent prevented from doing so much damage Miss Ormerod clearly shows, and though we have not space here to go into the question fully we may state that mercurial ointment used in very small quantity and applied to the head of the warble has the desired effect of immediately killing the maggot, which may the next day be squeezed out. We had a severe attack of warble amongst our own cattle some years ago; we used this remedy as recommended by Miss Ormerod now and with complete success. We followed it up whenever the parasite showed itself, with the result that after a time it completely disappeared. No cattle except a bull occasionally and a few newly dropped calves were bought and the herd kept well apart from others. This shows that the thing may be got rid of.

The sheep nostril fly, though not very common, is very tiresome when it attacks a flock as we can testify. We used a wash composed of a strong mixture of Little's dip and water with success. Miss Ormerod recommends a mixture of tar and oil.

The chapters devoted to the sheep tick and gad fly are most interesting and instructive, and we are sure that no farmer will regret spending a modest sixpence on this little work.

The authoress has worked very hard in the interests of farmers, and the latter should show their appreciation by making use of the knowledge which she has been at such pains to gather up in their interest.

Work on the Home Farm.

As Potatoes are the only article of farm produce, apart from meat, which are making a satisfactory price, it is natural that when farmers meet they should be frequently mentioned, and we are very much struck with the generally poor opinion held this season as to the utility of spraying. We have only met with one farmer amongst many who thinks that spraying has done his Potatoes appreciable good, but several who are wishful to act fairly to an initial experiment, or who have had satisfactory results before, think that the true effect of the spraying was nullified in great degree by frequent thunder showers during July, which hardly allowed the mixture to remain long enough on the leaves to have the preventive effect to a satisfactory extent. We must not, then, condemn the operation as useless because of this year's failure, but await the results of another season's experience.

Considering that some parts have been suffering from drought we may congratulate ourselves here on having had a full sufficiency of moisture. Three wet days during the past week have made the soil very sticky and heavy, and the ploughing, which was easy work before, is now quite enough for two horses to do comfortably. We are not sure that ploughing had not better stand over for a little time.

During the past month a good deal of corn has been threshed, and reports are most unanimous as to the paucity of the yield. Markets, however, do not respond to the local scarcity, but are full of sweepings from the world's granaries, and prices are drooping and trade is depressed. Wheat may be bought at 28s., and really nice Barley at 25s. Potatoes keep up in price, though the markets are full of foreign stuff. A new German variety, named "Professor Maerker," is very highly spoken of, and already our friends have bought 40 tons of seed for planting next season. It is an improved Imperator, a very heavy cropper, and as yet quite free from disease.

The Turnip lair is rather dirty for the feeding sheep, but they are doing well. Ewes are on grass, which is plentiful, and they will not have many roots until Christmas is passed. Early-sown Swedes are being fed to the bullocks; the roots are sound and well ripened, and must be valuable food.

The pork trade is brisk, and dealers are falling over each other in their efforts to forestall. Seven shillings per stone can be realised of nice small weights. The pig-feeder will have found his business profitable this year.

Electricity in Agriculture.—An association of farmers in Bavaria, according to a writer in "Feilden's Magazine," are building large electrical works to supply power for agricultural use. The current is generated near the village of Schaftersheim, a distance of seven miles from the district of consumption, and is supplied partly by steam and partly by water power. From there it is to be sent at a pressure of 5000 volts to the surrounding villages, where it will be employed for driving threshing machines, chaff cutters and bruising machines. The motors used are very simple and compact, so that they can easily be handled by farm hands. If this experiment should prove successful, it is almost certain to be imitated in other portions of Germany, as the power used, according to the estimates, is far more economical than horse power or steam power in separate plants; and there might be a very profitable market for such installations also in our own country.

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Journal of Horticulture.

THURSDAY, NOVEMBER 22, 1900.

Plant Elements.



HERE are four chemical elements of plant food that are especially valuable and necessary in the growth of all crops, whether cultivated in the open garden, the orchard, or the conservatory. These are nitrogen, potash, phosphoric acid, and lime. It is, therefore, extremely important that the horticulturist should know what these elements are, and what they will do for the plants he wishes to raise.

The first of these fertilising ingredients—namely, nitrogen—is an essential component of all plants; not the minutest species of moss or the tiniest Fern spore can grow unless nitrogen in some form is available to it. Nitrogen in its free state is a permanent gas, and is one of the most widely distributed elements of which we have any knowledge, comprising as it does about four-fifths of the earth's atmosphere. This vast store of nitrogen is, however, of no direct value to plants, since these are unable to use it, except when combined with the elements oxygen or hydrogen, in which condition it forms nitric acid or ammonia.

Recent research has, however, revealed to us the fact that certain species of plants, those that belong to the leguminous family, and possibly aerial Orchids, are indirectly able to build up their cell structure from the free nitrogen of the air, through the medium of microscopic plants, called bacteria, which are intimately associated with the host plants by means of the tubercles or nodules that are formed on the roots.

Nitrogen is present in the soil either as nitrates or ammonia, or it may be as organic nitrogen; the latter is known as humus, and must be converted by the process of nitrification into nitrates before the plant can make use of it. This accounts for the slow action of farmyard or stable manure, because the larger part of the nitrogen in these materials is in the form of organic nitrogen, and

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CATALOGUES ON APPLICATION

is locked up until rendered soluble by the action of micro-organisms.

Nitrate of soda, ammonium salts, and soot give off their nitrogen at once, hence it is ready for use directly these substances are applied to the soil and dissolved by moisture. Guano occupies an intermediate position to the former fertilisers, as a certain part of its nitrogen is in a readily soluble form and at once available to plants, while a portion becomes only gradually useable.

Nitrogenous manures help to strengthen plants to which they are applied in their early stages; they favour leaf growth, and give a deep green healthy colour to the foliage; they, therefore, encourage the vegetative properties of plants rather than the maturation or ripening. Applied in excessive quantities they induce rank growth at the expense of the development of flower and fruit, with a lowering of the fruit flavour.

Phosphoric acid, the second of the important elements, exists in all fertile soils in combination with various mineral substances, and it exerts a most beneficial influence on the growth of all garden plants. This ingredient is found in soils partly in a form that plants can readily dissolve, and make use of in the building of their structure; and partly in an insoluble form, which under the influence of rain water, carbonic acid, and air are gradually changed into available plant food. As there is no loss of phosphoric acid by drainage, the soil will only become deficient in this fertiliser by continuous cropping without a return of suitable manure.

Phosphoric acid is of special importance in the early life of plants; it stimulates the assimilation of other minerals by the plant, and favours the development of its root system. Thus an intimate relation exists between the nitrogenous constituents and the phosphoric acid in plants; and as phosphoric acid assists materially in the ripening and colouring of fruits, and is concentrated especially in the seed of plants, it follows that the greatest demand of this fertiliser is when crops are grown specially for the production of ripe seed or well-matured fruit. We leave the subject of potash and lime to another occasion.—J. J. WILLIS, *Harpenden*.

(To be continued.)

Pruning.

THE greatest pruning season of the year is upon us. As a matter of fact, though, pruning goes on all the year round almost, with the respective seasonable differences of operations and operators; at some periods the thumb nail does it on soft and growing shoots, checking them and diverting the sap into the proper and desired channels, and at others the knife and secateurs, or the saw and long-handled pruners do the work. The coming season is for the latter operators. But when you come to think of it what curious notions we most of us have as to pruning, more than we have of any other gardening operation, but as to how to do it, and when to do it, and also of the results of the doing it; and if there is one thing that we are more certain of than any other it is that our way is absolutely the best and only way of carrying out this most necessary, most scientific (as we think), and most utilitarian (as we hope) operation. And how we smile with superior complacency if anyone be rude and sceptical enough to hint that our way of pruning is open to question, and that the results will be both doubtful and problematical.

One of the most amusing, though sometimes vexing, things about pruning is to be asked by some farmer or cottager neighbour who has let his orchard trees grow into impenetrable thickets, and are therefore either barren or producing small and useless fruit, to "come and prune my trees!" He has the notion that all that is required to bring the barren fruit trees into immediate and bountiful bearing is to have them pruned, and he is mightily indignant if the next season after they have been pruned by having the light let into them they do not give him full crops. "What a fool that so-and-so is who pruned those trees; why, he has cut all the bearing wood out of them. I wish I'd never had them done!" Pruning to him goes along with the same idea as the giving a dose of physic to his horse or cow, he gives the physic at night and the animal is better in the morning. There is, no doubt, pruning and pruning, and no one should be allowed to

prune unless he has the clearest possible idea in his mind as to what will be, or ought to be, the result of every cut that he makes.

The late Mr. Mearns, one of the best, if not the best, fruit-growing gardeners of his day, when at Welbeck Abbey used to quietly watch his young men on the fruit walls, and if he saw one making what looked to him a doubtful cut, he would pull him up with the short, sharp question, "What do you mean by that?" and if the young pruner could give an intelligent answer explanatory of the cut and what he intended by it, and that answer was satisfactory, he was rewarded by the curt, but kindly, "Quite right; very good." But if he had made the cut thoughtlessly, and could not defend it, he got a stern rebuke, and a practical lesson given him there and then by his master, with the scathing reminder, "Never, as long as you live, dare to make a cut on a tree or bush that you do not know or hope will have a fruitful result."

This is, in all truth, the only consideration, or ought to be the only consideration, in the mind of everyone who prunes—What do I expect to get by this? and he may be sure of this—that he will never get good results unless he knows sufficient about the tree or bush, why it bears and how it bears fruit; where the fruit comes from on it; and how best to bring on the fruit-bearing branches, and to ripen them ready to do their work.

These remarks lead up to a note on pruning which I could not very well work into my notes on "Grove Hall, Notts," in the Journal of October 11th, page 332, and I think I can best give it in Mr. Welch's own way, not perhaps in his very words, but very nearly so. "Look here," he said, as we walked up to a Pear on one of the walls, "I'll show you an experiment and its result. This Pear (Bergamotte Esperen I think was the name, but there's a blank in my notebook as to the name, which after all is immaterial) was one of the best laid in of our horizontally trained Pears, but like many of the old horizontal trained trees, all the fruit was on the young growths at the ends of the various branches. We all know that that is so, and as I did not like the tying down system—it makes such bundles of the branches—and the piecemeal way of taking out a branch here and a branch there, and training a young shoot in did not work very well, I thought I would try a bold and desperate scheme of my own—cut off the whole of the horizontal branches close up to the bole and start the tree afresh. I did it, and here is the result. Will it do?" I was bound to say that "it would do," for the tree had been made young again, and was producing a good crop of fine fruit, and every lateral branch was extending itself and being correctly trained and judiciously pruned, and would evidently go on doing so. It was a courageous thing to do, and only a strong man would dare to do it, and as "nothing succeeds like success," and also as a hint to others who may have trees in like condition, I give the experiment for what it is worth. If I have under or overstated the case, no doubt Mr. Welch, who is a very careful reader of our Journal (as witness his note in the Journal, page 377, on "Mulching Asparagus Beds in Winter"), will put me right.

Any gardener who comes into possession of Pear walls of this description knows how mortifying it is to see yards and yards of barren space on beautiful horizontal-trained trees with a few fruits at the extreme end of the young branches, and for the life of him he does not know how to remedy it. He tries his hand at first one thing and then another, tries different ways of pruning the spurs, leaving them long, short, and medium lengths. No good that, much! Tries what some forty or fifty years ago most ably and powerfully advocated, the tying down of young growths all along the branches, until his trees look like a collection of birch-brooms at certain times of the year, and a confused mass of growth at others, but with a very limited fruit result. Takes out a branch here and there, and tries to get a young shoot to put in the next season, but doesn't always succeed, and, if he does, the branches above and below smother it, and, finally, he gives it up, and gets what he can and how he can. Because, mind you, there is one consideration which must always weigh with him, and that is, will the "powers that be" let him take desperate measures, like those Mr. Welch took, and cut back the beautifully trained trees which are such a source of admiration and satisfaction to their owner because of their correct appearance, and thus try a remedy to get them into fruitfulness?

Nine times out of ten I think the gardener would get a very positive negative in reply to his request to do this thing, as I know one did who wanted to remove one such barren old beauty of a Gansel's Bergamotte, beautifully trained, I admit, which covered some 15 yards of wall for a miserably few fruits at the ends. "On no account whatever!" nor could any explanation get other answer. We have all much to learn in pruning, no doubt; we can be too timid, we can be too bold; but there is a good deal of life wisdom in the remark that "the man that has is the man that takes," and boldness often wins, and a well considered experiment is most decidedly worth trying. —N. H. P.



Notes on Vandas.

FEW of the species in this beautiful Old World genus seem to have much attraction for orchidists generally, and small cultivators especially. A few of the newer kinds, such as *V. Kimballiana* or *V. Amesiana* (fig. 121), are fairly popular, and even *V. cœrulea* finds a great many admirers, but many of the noblest in the genus, such as *V. suavis* or *V. tricolor*, and *V. Batemanni* are in most cases conspicuous by their absence. In too many private gardens it is the custom to give these Vandas too much heat and insufficient air, especially at this season. Because they come from a tropical country cultivators apparently think that they cannot be overdone with heat, consequently they have to make the best of their existence among the very warmest section of the family, with the result that after the first season or two the foliage is weakened and falls, and few flowers appear.

Insects also find in debilitated plants just what they like, and, owing to their attacking the few sound leaves that are left, the poor Vandas present a sorry appearance indeed. Contrast such with plants grown in a suitable temperature. Here we see vigorous growth, a plant that is ornamental before it produces a flower, and when in blossom a magnificent sight that well repays the trouble taken by the cultivator, and elicits no end of encomiums from interested visitors.

A few degrees of heat one way or another make little difference to Vandas. What they want is a constant and regular supply of air, a nicely balanced temperature as regards moisture and heat, and most important of all, abundance of light without being scorched by bright sunshine. Many of the fine conservatories in various parts of the country, with their wealth of climbers on the roof breaking up the rays of the sun, would make ideal houses for Vandas. In these spacious structures the temperature keeps steady, the plants may have a good light without being too close to the glass, and the ventilation does not mean the licking up of every drop of moisture. No fear of such plants losing their leaves in winter, even supposing the temperature drops a little lower than usual; and this leads up to a fact that is often lost sight of by orchidists—viz., that most Vandas are quite safe, and indeed happy, in a winter minimum temperature of from 45° to 50°. It induces complete rest and minimises the risks of attacks from insects, the plants, moreover, being much more floriferous than others kept warmer.

Vandas of many kinds may also be well grown in vineries; indeed, the suitability of these houses for Orchids of various kinds during the summer is not nearly as well known as it ought to be, the plants grown there being decidedly the better for the change, while the increased room in the Orchid houses proper must conduce to the well-being of those left behind. There are some Vandas, it is true, that must have more heat than others—in fact, that can hardly be kept too warm while growing, the peculiar *V. teres* being a well-known instance of this. *V. Sanderiana*, too, the King of Vandas as it has been termed, likes tropical treatment while growing; but these are only exceptions that prove the rule, and the fact remains that the great majority in the genus are too liberally provided with heat. In most of the species it is easy to see that the growing season is commencing, and also when it is finished, by the appearance of the roots.

These, it will be noticed, when the plants are in full growth, have soft green points, round which the tender spongioles may be easily seen by the naked eye. This shows that they are seeking for moisture, and consequently as long as the green points are visible this must not be withheld. In autumn, however, a white film comes over these, and although clinging as firmly as ever to the compost or the side of the pot or basket, they are not so active in their search for moisture.

By degrees, then, the cultivator must lessen the supply of water; not all at once, or the foliage would suffer, until in winter very little will suffice, the plants in fact being kept going for weeks by the atmospheric moisture without a drop being poured on the roots. A little different treatment of course is required by different species, and as a rule the smaller growers require watering oftener than larger ones, owing to the greater capacity of retaining moisture in the receptacles wherein the latter are grown. For compost sphagnum moss will suffice, the only needful addition being

plenty of some hard substances, as charcoal or crocks, in various sizes according to that of the pot or basket.

The latter are best for the smaller-growing kinds, and also for small plants of the more robust species. There are various other details requiring attention, and these vary with the differing species.—ORCHIDIST.

Oncidium varicosum Rogersi.

Flowers of this grand form are already to hand from one of my correspondents. Cheap, and easily obtained, it is no wonder it is so popular, the only pity is that it does not continue longer in a healthy state in our Orchid houses. Of course in many cases cultivators themselves are to blame. They will persist in allowing the spikes of flower to remain on weak and poorly established plants, with the result that they never recover from the strain. I have found it do best in a clear light in an intermediate house, the roots being confined to rather small baskets or pans.

Trichosma suavis.

Complaints are frequent anent this pretty species not throwing its blossoms sufficiently high to show properly, and although possibly in some cases it is the fault of the grower, there is no doubt it is peculiarly liable to this defect. In some cases the plants are allowed to flower before they are properly established, and being naturally weak at such a time their energies are much overtaxed in producing the flowers, the consequence being that these open too soon, are never good, and prematurely decay.

The best preventive of the mischief is, it goes without saying, to grow the plants strongly and well. The roots are very liable to injury from defective drainage or soured compost, consequently great care is necessary in preparing the latter and in maintaining it in proper condition. This done one of the chief causes of failure is removed, and I have found it a very great advantage in this connection to allow considerably more sphagnum moss than what when making up the compost. Besides the compost it is important that abundance of moisture and an almost unlimited supply of fresh air be maintained.

These, with shade when required, the leaves kept cool in summer, and a good clear light from now until the spring, form ideal conditions for its continued health. Thrips—the bane of its existence in badly managed collections—will be practically unknown when these few details are carried out, and provided the plants have a firm hold on the home of their adoption and are sufficiently strong there will be no cause for the complaint noted above. The best of all positions for it is a house slightly warmer in winter than the very coolest section delights in—such a one as suits *Odontoglossum grande* and its allies. Its native home is on the Khasia Hills, where the late Mr. Gibson, at that time collector for the famous Chatsworth collection found it in 1836.—H. R. R.



FIG. 121.—VANDA AMESIANA.

Coniferae.

(Continued from page 264.)

IN these notes we are dealing with Conifers as ornamental trees and shrubs; at the same time it is as well not to forget their more important qualities. Dr. Lindley says:—"No order can be named of more universal importance to mankind than this, whether we view it with reference to its timber or its secretions. Gigantic in size, rapid in growth, noble in aspect, robust in constitution, these trees form a considerable proportion of woods or plantations in cultivated countries, and of forests where Nature remains in temperate countries in a savage state." The qualities of Coniferous timber vary much in the different tribes, and also among members of the same tribe.

The Fir and Pine tribe acquire high importance from the number of species which they include, affording excellent timber. Among the most valuable for this purpose are the Scotch Fir, affording yellow deal; Norway Spruce, yielding white deal, formerly a British tree, as its cones are found in geological formations; Weymouth Pine, the most valuable timber Fir of North America; the Douglas Fir, of which a spar of 159 feet in length is erected as a flagstaff in the pleasure grounds at Kew; and Larch, which is largely used for railway sleepers. The wood of the Cypress (*Cupressus sempervirens*) is almost imperishable; the gates of Constantinople made of this wood lasted 1100 years. The wood of *Juniperus virginiana* is commonly used for "lead pencils," under the name of Red Cedar. The Deodar wood of India is practically imperishable, but that of the true Cedar (*Cedrus Libani*) is comparatively worthless. The wood of *Juniperus oxycedrus* is supposed to have been that from which the Greeks carved the images of their gods. The Virginian Pine (*Pinus palustris*) is largely employed in the navy for masts, while the Stone Pine is used by the Greeks in ship building. The wood of the Yew is among the hardest and most elastic known, and it is said never to be attacked by insects.

The amount of secretions yielded by Coniferous trees appears to be influenced by the heat and moisture of the climate; the former acting as a stimulant, and the latter as a check to their production. Of resinous products the most important are tar and turpentine. The former is distilled from faggots of Pine, chiefly Scotch Fir, in the north of Europe. The residuum left after the distillation of the liquid part from tar is pitch. Turpentine is afforded by several species of Pine, especially *Pinus palustris*. The turpentine exudes from wounds in the trunk near the ground. Common resin is the residuum of the distillation of oil of turpentine. The Kauri resin of New Zealand, used in making varnishes, is exuded by the Cowdie Pine. The largest masses of it are said to be found buried in the soil far from places where the tree now grows. Great tanning powers exist in the bark of the Larch, as great it is said, as in the Oak.

The seeds of some species are edible, and although the resinous flavour is never entirely absent, it may be got rid of by boiling or roasting; they are then not only palatable, but even agreeable. The seeds of *Araucaria imbricata*, *Pinus Sabiniana*, *P. Lambertiana*, *Pinus longifolia*, *P. pinea*, are all used as food by the inhabitants of the countries of which they are native. Those of the *P. pinea* are brought to market in the South of Europe strung together like beads on a string. The large seeds of the Bunya-bunya Pine, *Araucaria Bidwilli*, are eaten by the aborigines of East Australia. *Araucaria imbricata* appears to be one of the most useful trees for supplying these edible seeds.

Dr. Poeppig gives a detailed account of the *Araucaria* forests. He says, "The *Araucaria* is the Palm of those Indians who inhabit the Chilian Andes, from latitude 37° to 48°, yielding to these nomadic nations a vegetable substance that is found in the greater plenty the more they recede from the whites, and the more difficult they find it to obtain corn by commerce. Such is the extent of the *Araucaria* forests, and the amazing quantities of nutritious seeds that each full grown tree produces, that the Indians are ever secure from want; and even the discord that prevails frequently among the different hordes does not prevent the quiet collection of this kind of harvest. A single fruit contains between 200 and 300 kernels, and there are twenty or thirty fruits on one stem; and as even a hearty eater among the Indians, except he should be wholly deprived of every other kind of sustenance, cannot consume more than 200 nuts a day, it is obvious that eighteen *Araucarias* will maintain a single person for a whole year." From the seeds of *Pinus Cembra* is expressed a valuable oil used for lamps, and the berries of the Juniper are used to flavour gin.

The foliage of Coniferous plants does not give us such a variety of beautiful colours as is to be found among many of our deciduous trees and shrubs in the spring, but especially during the autumn months. Nevertheless we have many shades of green and yellow, also grey and white. The foliage of the Lawson's Cypress is a dark green, while the variety *erecta viridis* is a lighter green, and much brighter. Then there is the glaucous form, and a variety with quite a blue tint. The Austrian, Corsican, and Scotch Pines are often termed Black Pines. I am familiar with a plantation of the latter that goes by

the name of the Black Plantation. There are different shades of yellow in the Chinese Arbor Vitæ, Chinese Juniper, Yew, and *Retinospora*. In the Deodar Cedar we have a pleasing glaucous hue, and also in that of *Juniperus virginiana glauca*, which is darker than the Deodar. Perhaps one of the most distinct forms of light coloured Conifers is to be found in *Retinospora squarrosa*, which has foliage of a greyish hue. We have also variegated forms, such as *Retinospora plumosa argentea*. The foliage of *Cryptomeria elegans* changes in winter to a deep bronzy crimson, which makes the plant particularly ornamental at that season.—PINUS.

Late Plums.

IN gardens of limited extent it is not so easy a matter to maintain an unbroken supply extending from the first week of August until the middle of November, or later, simply because the extent of wall space does not allow for these and other fruits demanding a share of space, such as Pears, Cherries, Peaches, Figs, and Gooseberries. That more late sorts and trees of Plums could be advantageously planted goes without saying in many cases, but where the difficulty appears is in dealing with existing trees that are in a satisfactory bearing state. Few care to sacrifice a healthy wall tree if it bears well, and the sort a good one, notwithstanding that its neighbour may ripen about the same time, thus providing a superabundance at that season and a blank to follow. Valuable space is often taken up on the walls for cooking Plums that might be filled with choice dessert varieties. Pond's Seedling, Victoria, Early Rivers, Czar, Diamond, and Magnum Bonum may be grown as pyramids or standards; they give heavy crops under this style of growth, and extend over a fairly long season. The newer Monarch fruits very freely as a standard, and extends the season most appreciatively. Fortunately such gluts of Plums as that of this season are not an occurrence of successional years; but even in such a one the latest gatherings are sure to be of greater value than the main and earlier crops. For the autumn shooting parties Plums are always welcome, when they are available, both for cooking and dessert purposes.

Now that the planting season is with us, there is wisdom, I think, in overhauling one's stock, and an estimate made of the existing supply, and where possible thin down those trees that produce simultaneous crops, and plant new trees of successional approved sorts. True, crops are not always abundant, and in times of scarcity it takes two or three trees to produce the average of one, when full crops are the order of the day. It is, however, the average rather than light or very heavy ones that the planter has to bear in mind and provide for.

Plums may be grown on any aspect, east and west being the most suitable. I have never found much, if any, gain by planting on south walls. This is better devoted to Peaches, Nectarines, Figs, and Apricots, allotting portions of the east, west and north to Plums. The latter is good for a tree of Coe's Golden Drop, Blue Impératrice, Coe's Late Red, and Monarch. These give useful crops in October and November. East and west walls are the best for main crop Plums and Gages, and where it is possible it is advisable to plant in duplicate on these two sites, for the reason that in some years frost destroys the bloom on one while the other escapes, the sun's action being so prejudicial acting on the frozen flowers.

It would not be an unwise investment to plant two trees of Coe's Golden Drop to one of any other on the walls. This is always a favoured Plum because of its rich flavour and its late and successional ripening. It may easily be had, if trees enough are planted, to extend over two months or more. The new Golden Transparent, Reine Claude de Bavay, Brahy's Green Gage, Late Rivers, and Coe's Late Red are some others that may reasonably claim additional space.

It is very curious how the maincrop and late sorts have been mixed up this year; it was no unusual occurrence to have Kirke's, Jefferson's, Monarch, Coe's Golden Drop, and others all in season together. To a very great extent, however, this is accounted for in the heavy loads of Plums borne by some trees, and if unthinned early these otherwise excellent summer Plums were fit only for cooking. I have never known a year when summer Plums were so much out of season before. Those that were duly thinned to a normal crop bore full-sized Plums; if left in a natural state they were, from a dessert standard, not of much value.

Those contemplating the purchase or removal of such trees ought to lose no time before doing so. Stone fruits of all kinds repay early planting. Moved early, new roots form on what is called the return of the sap. It is an advantage, too, to carry out removals while there are still leaves on the branches, and particularly is this so in the case of trees brought in from the open to fill blank spaces under glass. Partial re-establishment now insures at least a light crop next year and fruits of larger size.—W. S.



National Chrysanthemum Society—Floral Committee, November 19th.

THERE was again a large attendance of the committee, who, while giving due consideration to all the varieties brought before them, got through their work in a thoroughly workmanlike manner. The number of novelties staged was considerable, and, as might be expected, the Japanese varieties predominated, while the incurved and single varieties were well represented. On the whole, however, it must be stated that the majority of the Japanese, though of large size, were very rough and coarse; it is satisfactory to note that the committee, without exception, rigidly set their faces against such products, and if they only follow conscientiously their present type, and system also, we shall not have so much room to cavil at their awards. The exhibitors on this occasion were Messrs. R. Owen, F. Daniels, H. Perkins, H. Weeks, G. W. Forbes, and N. Molyneux. The varieties receiving awards were:—

Frank Hammond (N. Molyneux).—A grand incurved variety of fine size with good shell-like florets. The examples staged were hardly finished, but it was evident they would develop into fine blooms. The colour may be described as a bronzy buff, the inside of the petals being reddish (first-class certificate).

Golden Gloaming (F. Daniels).—An incurved Japanese with full broad florets, fawn with a buff reverse; a difficult colour to describe in the light prevailing; will make a fine exhibition flower (first-class certificate).

Mrs. Bagnall Wylde (H. Weeks).—A fine Japanese variety with long reflexed petals, similar in colour and form to G. J. Warren, but with broader petals; a promising variety (award of merit).

Miss Roberts (R. Owen).—About the most distinct yellow Japanese seen for some time, the colour reminding one of the old Sunflower in its best form, with long curling florets, a very large and at the same time refined flower, one of the best novelties seen this season, and perhaps a little hardly treated by the committee, who gave it an award of merit.

Few varieties were asked for again, but Nellie Perkins was one of the number, a monstrous flower, not unlike Lady Hanham in colour, but larger. A white sport from Mary Molyneux appeared good, but the parentage seemed to frighten most of the committee.

Reflexed Chrysanthemums.

REFLEXED varieties of Chrysanthemums cannot boast of producing the largest blooms, but from a decorative point of view they are specially useful. The form of the blooms is usually excellent, and the colour exceptionally rich. Freedom in growth is combined with freedom in flowering. Several flowers may be grown on one main stem, which is useful to cut for vase decoration. Several such stems with bright, fresh blooms fully expanded produce a most tasteful display, being light and graceful instead of heavy and massive, which is inseparable from the large Japanese varieties.

Most of the best reflexed varieties are adapted for formal and informal training. The latter method would include bush-shaped plants, produced by stopping the young plants several times between March and June, so as to multiply the number of stems from which the blooms would eventually be produced on judiciously thinned-out terminal buds. The plants enjoy fairly good culture in 8 or 9-inch pots, and certainly pay the growers in proportion to the attention given. The usual height of the varieties is 3 and 4 feet.

The purest white varieties are White Christine, White Emperor of China, Boule de Nègre, and Clara Jeal. Elsie is a creamy white, and Emperor of China white with blush centre. It is often seen growing out in the open. The yellows embrace some good-coloured varieties. Dorothy Gibson is a rich golden yellow; Chevalier Domage the same colour. Temple of Solomon was an attractive variety twenty years ago, and is still good. Golden Christine is a golden buff. Among the dark coloured varieties, Cullingfordi, a scarlet crimson, is excellent. Dr. Sharpe, magenta crimson, is first class, also King of Crimson, a variety of deep colour. The dark velvety crimson colour of Julie Lagravère is exceedingly rich and blooms admirably outdoors in the southern counties. Mons. Benjamin Giroud is another crimson of newer introduction than many of the reflexed. Putney George is bright crimson. Peach Christine and Pink Christine are, as their names imply, of different shades of pink. They are old varieties. Miss Florence Lunn and Progne are the two best amaranth or claret coloured varieties. The latter variety does well outdoors, and is violet scented.

The above list includes the best of the older varieties. A new variety comes to the front this season named Lewisham Belle. It is considered to be a good addition to the varieties of reflexed suitable for exhibition, being of good form and size. Its colour is sulphur yellow.—E.

Dark-coloured Chrysanthemums.

HAVING read "Specialist's" remarks on the above, I would like to mention one old variety which I consider, on account of its brilliant red colour, should not be left out in the cold. This is Matthew Hodgson; we grow it here every year, and have had it full exhibition size. We grow all the new sorts, but I must say none of them will beat Matthew Hodgson for its brilliant colour. The bud should be secured the first day or two in August, as it is one of those sorts which take a long time to develop. It is a sturdy grower, and will stand liberal treatment.—A. J. L., *Wyfold Court Gardens*.

Overfed Chrysanthemums.

I READ with great interest the article on page 402 describing the collection of Chrysanthemums at Warren House. What struck me was the paragraph alluding to Mr. Gleeson's care in feeding his plants with artificial manure. Many others would be interested who were journeymen with me under Mr. Gleeson at Warren House a few years ago. Artificial manures were then used very freely, both in potting and during the growing period, producing plenty of wood and foliage, but no grand specimen blooms such as your correspondent describes. It would be a great benefit to young gardeners (especially those who are unable to procure artificial manure) if Mr. Gleeson or his grower would direct their attention, through the pages of this Journal, to his new method of cultivation, which seems to be so successful in producing grand blooms of the autumn queen.—W.

Bush and Decorative Chrysanthemums.

No one can deny the beauty of well-grown blooms of Chrysanthemums of an exhibition standard, even if not grown for exhibition away from home, but at the same time their culture is rather of a luxury in these days of gardening for profit. Plants that one can cut an armful of flowers useful for house or table decoration are apt to be thought more of than those bearing only two or three large blooms, be these ever so handsome; and the one fault of the predilection in their favour is that the room they take up greatly lessens that at command for the more useful bush and decorative plants.

I am not, of course, saying that the big blooms are not decorative, that would be absurd; but I have seen in so many cases the best positions chosen for them without regard to the inconvenience caused to the other section, that I would like to ask for these a little more consideration. To do them well the bush plants require room, so that the lower leaves, instead of being either a mass of mildew or else conspicuously absent, would remain firm until the flowers were open, and clothe the plants almost to the pot. A great deal of care—quite as much as is bestowed on the plants grown for big blooms—is necessary in their culture, and not every variety is suitable, but they are well worth the trouble involved.—H. R.

Abbey Park, Leicester.

WHEN on a recent visit to Leicester a spare quarter of an hour was devoted to a visit to the Abbey Park. The first object was the grand show of Chrysanthemums displayed in two commodious span-roofed greenhouses containing upwards of 2000 plants in full bloom. Without the aid of a guide it was computed that probably upwards of a hundred varieties of Mums were in the collection. Many of the blooms would have made their mark on the show board. Notable, too, was the large stock of late propagated dwarf plants varying from a foot to 2 feet high, each furnished with one flower, and which did effective duty on the side shelves. Another interesting object in the park was the thriving Oak tree planted by the Princess of Wales at the opening of the park in 1883. Time would not allow of a more than cursory glance at this grand public park.—G. W. G.

Weston Hall, Otley.

A FEW days ago I had the pleasure of paying a visit to Weston Hall, the seat of Col. Dawson; to see the ever genial gardener, Mr. Robt. Craigie, and his Chrysanthemums. The sight I met with will not readily be forgotten. To my mind his plants were perfection, not altogether for size of bloom, but for their clean and healthy appearance, with leaves to the tops of the pots. Numbers of these plants are growing in 6, 7, and 8-inch pots for grouping. Another pleasing feature was made by about forty plants of Miss Mary Anderson and Eva Cameron, grown in 48 and 32-sized pots. The weather for the past fortnight in the valley of the River Wharfe has been very dull and foggy. I enumerate a few of Mr. Craigie's best blooms: Miss Nellie Pockett, Madame Gustave Henry, Mr. T. Carrington, Pride of Madford, Mons. Clenon de Léché, Le Grand Dragon, Edith Tabor, Elthorne Beauty, Edwin Molyneux, Lady Hanham, and Lord Ludlow.—J. SNELL, *Farnley Gardens*.

Royal Horticultural Society.

Drill Hall, November 20th.

THERE was not a great number of exhibits in the Drill Hall on Tuesday, but those shown were of remarkably good quality. *Cypripediums* from Mr. McLeod, and Orchids and winter flowering hybrid *Begonias* from Messrs. J. Veitch & Sons were particularly attractive. Vegetables and fruits were very scarce.

Fruit Committee.

Present: G. Bunyard, Esq. (in the chair); with the Rev. W. Wilks and Messrs. W. Poupart, E. S. Blaker, A. H. Pearson, A. Dean, S. Mortimer, G. Kelf, C. Herrin, G. Wythes, F. Q. Lane, G. Reynolds, E. Beckett, and G. Norman.

Messrs. Harrison & Sons, Leicester, staged a capital table of vegetables of good average size and in excellent condition. Some of the most notable were Potatoes Reading Russet, Up-to-Date, Satisfaction, and Schoolmaster. Carrots Early Market and St. Valery were both excellent, as were Ailsa Craig and Lord Keeper Onions. The Leeks bore evidence of cultural skill, but they had been on the show bench too often to be attractive. Mr. Will Tayler again staged good bunches of his outdoor Grape Reine Olga, which, although not very attractive in colour, are of good flavour, while the bunches leave little to be desired (silver Banksian medal).

From Mr. A. B. Wadds, gardener to Sir W. D. Pearson, Paddockhurst, Crawley, came a fine cluster of *Musa Cavendishi*, which, although hardly up to the Canary Islands produce, attracted much attention from those present. Messrs. Dobbie & Co., Rothesay, exhibited a table of their selected Winningstadt Cabbage, a good variety of the type with close compact hearts. One of the best Cabbages seen lately for private growers.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. G. Paul, C. T. Druery, R. Dean, C. J. Salter, C. Jefferies, J. D. Pawle, E. Mawley, W. J. James, H. B. May, G. Gordon, J. Fraser, J. Walker, and J. W. Barr.

Messrs. W. Wells & Co., Ltd., staged a large group of cut *Chrysanthemums* on the central floor. The chief pyramids were arranged on bamboo stands, while the front was formed of vases and specimen blooms arranged in boxes. The blooms were undoubtedly good, but the arrangement would have been infinitely better had a little suitable foliage been added. A few of the most conspicuous blooms were Frank Hannaford, Chas. Longley, Meredith, Madame L. Tede, Madeline Davis, C. J. Salter, W. R. Church, in fine form; Janet, Lady Clarke, Glorious, a grand red; Mabel Morgan, Nellie Southam, Mrs. H. Weeks, and Lady Symonds (silver-gilt Banksian medal).

A small table of Carnations came from Messrs. H. & J. Elliott, Cornbushes Nursery, Hurstpierpoint. The varieties most noticeable were Brightonian, Queen of Holland, and Sweet Primrose; most of them were sweetly scented, and well arranged on a bed of *Asparagus Sprengeri*. Mr. R. C. Sanders, Halton Gardens, Tring, also had two good baskets of winter-flowering Carnations; one basket contained a variety called Ladysmith, a really good pink, sweetly scented, not unlike Mrs. L. de Rothschild, and the other was composed of Miss Minnie Hubbard, a good yellow flaked with rose.

Mr. J. H. Witty, Nunhead Cemetery, arranged a display of extraordinary *Chrysanthemums* round a large mirror, the whole forming a somewhat artistic group. The *Chrysanthemums* employed were the well-known Golden Shower, What Ho, Charles Little, Jap, Mignonette, Mrs. Carter, and other curiosities (bronze Banksian medal). From the great Chelsea firm of Messrs. Jas. Veitch & Sons, Ltd., came a table of winter-flowering *Begonias*, running the entire length of the hall. The brightness they made in the hall was most acceptable, for all were composed of red shades. Ensign, a rosy red of great decorative value; Winter Cheer, a red of deeper shade; Vesta, a bright rosy red single variety; and Winter Perfection, a good rosy pink, all being of a good decorative habit, and evidently free winter bloomers (silver-gilt Banksian medal).

Mr. J. F. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton, arranged a large group of flowering and foliage plants on the floor, which was excellent in every way, for not only did it commend itself for its size, but the quality of all alike was up to the high standard usually displayed by Mr. McLeod. The foliage plants employed included large specimen Palms and Bamboos, with lighter Palms and Crotons for dot plants; on either side were arranged collections of well coloured Crotons, while Maidenhair Ferns were freely used as a groundwork. The flowering section was composed of *Begonia Gloire de Lorraine* and *Lilium Harrisii* (silver-gilt Flora medal).

Messrs. H. Cannell & Sons, Swanley, staged a large table of *Begonia Gloire de Lorraine*, arranged with *Cocos Weddelliana* and *Adiantums*. The *Begonias* were marvels of cultural skill, being literally covered with flowers of more than usual size, while the plants themselves were symmetrical and in perfect health (silver Flora medal). Mr. C. J. Wakefield, Hindon Street, London, exhibited some floral wires arranged in lead bases so that they could be utilised for any floral display in vases. The patented name, Floral Aid, seemed appropriate.

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, de B. Crawshaw, R. B. White, H. Little, H. Ballantine, J. T. Gabriel, H. Tracey, W. H. Young, W. H. White, F. J. Thorne, H. J. Chapman, A. Hislop, E. Hill, J. Jaques, J. Douglas, J. Gurney Fowler, and T. W. Bond.

Mr. J. F. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton, occupied a table running the entire length of the hall with *Cypripedium* insigne. The plants were splendidly grown, and carried an average of one and a half dozen flowers. The *Cypripediums* were arranged in a bed of Maidenhair Fern, and formed one of the most attractive groups in the hall (silver Flora medal). A small but very bright and interesting group of Orchids was contributed by Messrs. H. Low & Co., Bush Hill Park. The principal plants were *Cypripediums*, which included insigne Ballæ, i. *Sanderianum*, i. *Sanderæ*, Nandi, insigne Ernesti var., Milo, and *Leeannum Clinkaberryanum*. There were also one or two other Orchids (silver Banksian medal). Messrs. J. Veitch & Sons, Chelsea, arranged a most charming group of Orchids, comprising mainly *Cattleyas*, *Lælio-Cattleyas*, and *Cypripediums*. The *Cattleyas* included Portia, Pandora, and Chloris; the *Lælio-Cattleyas* Decia, Statteriana, Frederick Boyle, Tiresias, Lady Rothschild, and Labiena; *Lælia* Mrs. M. Gratrix; and the *Cypripediums* *Arthurianum pulchellum*, *Leeanum*, *Artemis*, Baron Schröder, T. B. Haywood, Prospero, and *Arthurianum*. All the plants were well flowered (silver Flora medal).

Mr. W. H. White, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, exhibited *Lælio-Cattleya Dominiana inversa*, *Cattleya labiata rosæflora*, *Coryanthes Mastersianum*, *Angræcum distichum*, *Cypripedium Argo Morganiae*, *Maxillaria Mooreana*, *Polystachya Buchanani*, *Cœlogyne fimbriata*, *Masdevallia deorsa*, *M. platyglossa*, *Sigmatostalya radicans*, and *Pleurothallis stenosepala*. Mr. C. Marston, gardener to F. Knight, Esq., Thundersley, Essex, sent a few Orchids, including *Cattleya labiata* and *Cypripedium Charlesworthii* as the prominent features (bronze Banksian medal).

Mr. W. H. Young, gardener to Sir F. Wigan, Bart., Clare Lawn, East Sheen, staged a few plants, all of which were carrying excellent flowers. There was *Cattleya* Mrs. J. W. Whiteley, *C. labiata* Ruby, *Lælio-Cattleya* Mrs. Birkbeck, *Zygocloax Veitchii* var., *Cypripedium Statterianum*, *C. Arthurianum pulchellum*, *Lælia pumila gigantea*, and *Cattleya Bowringiana* concolor. Mr. J. Douglas, Great Bookham, contributed *Lælia Gottoiana* Mrs. Douglas and *Lælia Briseis*. Messrs. F. Sander & Co. showed a finely flowered plant of *Cattleya Percivalliana*.

There was a considerable number of small exhibitors of Orchids, including Mr. W. Cobb, Tunbridge Wells, *Cypripedium Cobbiae* and *C. insigne* Harefield Hall variety; Mr. W. A. Bilney, Weybridge, *Lælio-Cattleya intermedia flava*; Mr. J. T. Gabriel, Streatham Hill, *Cattleya Dowiana aurea*, Gabriel's var.; Mr. H. S. Leon, Bletchley Park, *Cattleya* H. S. Leon; Mrs. Briggs Bury, Accrington, *Cattleya labiata alba*, Bank House variety; Mr. C. J. Lucas, Horsham, *Dendrobium Phalaenopsis Schröderianum* Venus and D. P. S. Cupid; Mr. J. T. Bennett-Pcë, Cheshunt, *Calanthe Harrisii* and others.

Certificates and Awards of Merit.

Cabbage Dobbie's Selected, Winningstadt (Dobbie & Co.).—This is a selection from the old Winningstadt. The Cabbage is dwarf, remarkably firm and of clear white colour (award of merit).

Cattleya H. S. Leon (A. Hislop).—This is a magnificent hybrid from a cross between *C. Schröderæ eximea* and *C. gigas Sanderiana*. The sepals and petals are rich rose with a delicate purple suffusion, and the superb lip is rich velvety crimson; it is beautifully fimbriated (first-class certificate).

Chrysanthemum Major Plumbe (R. Owen).—A handsome flower with incurved yellow florets (award of merit).

Chrysanthemum Miss Jessie Cottee (E. Mills).—A bright yellow form of the well-known *Etoile de Lyon* (award of merit).

Chrysanthemum Mrs. J. Bryant (H. Perkins).—A handsome Japanese that is now comparatively well known (award of merit).

Cypripedium Cobbiae (W. Cobb).—A huge flower, the dorsal sepal is green in the centre with brown marking, and a white margin. The petals and pouch are claret rose, paling on the lower portions (award of merit).

Cypripedium Priam (J. Veitch & Sons).—This is from a cross between *C. Niobe* and *C. insigne Chantini*. The dorsal sepal is of exquisite beauty; it is green at the base with numerous crimson spots in lines extending up into the pure white of three parts of the organ. The petals are crimson brown with many spots on the brown base. The pouch is varnished brown (first-class certificate).

Lælio-Cattleya Mrs. Birkbeck (Mr. H. Young).—This is a pleasing bigener. The sepals and petals are rose, and the lip deep crimson with primrose side lobes (award of merit).

Lælia Gottoiana Mrs. Douglas (J. Douglas).—A very attractive variety. The sepals are green with rose flushings, and the broad waxy petals creamy green with delicate rose. The lip is rich crimson purple (award of merit).

Tacsonia militaris (F. Sander & Co.).—This is a superb greenhouse *Tacsonia*, with rich crimson-scarlet flowers (first-class certificate).

Pear Beurré du Buisson (W. H. Divers).—This is a grandly flavoured variety. The skin is rough, has traces of orange on the sun side, and numerous spots (first-class certificate).

Mr. Bunyard on Common Mistakes in Fruit Culture.

At the afternoon meeting Mr. Geo. Bunyard read a paper on this subject, and prefaced his remarks by the statement that the paper was compiled mainly for the benefit of amateurs. Even had he not done so the majority of those present would quickly have recognised the fact, as the errors alluded to were all of the most elementary character, and such as are not at all likely to be perpetrated by professional gardeners and fruit growers (who are worthy of their names) at the present day, whatever might have been the case a decade or more ago. However, as Mr. Bunyard tersely put it, we learn most of all from our failures, and he might have added from the failures of others. As a matter of fact an immense amount of most valuable information has been gleaned by fruit growers by observing the mistakes of those who have gone before. This has been the case generation after generation, and doubtless those who succeed us will find abundant food for thought, and ample room for improvement in the methods we practise to-day, and which we regard as perfect.

The first item adverted to by the essayist was deep planting, by which the fibrous or feeding roots of the plants are buried so far beneath the surface of the ground that they fail to perform their proper duty of food imbibition, and coarse strong roots pushing into the subsoil encourage gross branch growth that is the reverse of fruitful. Mr. Bunyard instanced a case in which the upper layer of roots was 3 feet 2 inches beneath the surface soil. Such an extraordinary freak on the part of the planter amply justified the question asked at the conclusion by a member of the audience, who was anxious to ascertain whether the planting had been done by a gravedigger. For years the best cultivators in the country have been urging through the gardening press the necessity for shallow planting, and we think no sane man would now cover the roots with 3 feet of mould, even if he were dealing with soil of the lightest and most porous character. Following in natural sequence upon this came above-surface planting in orchards, to allow of sinkage of the soil, so as to bring the whole eventually to the normal level.

The undesirability of cropping borders in which the roots of fruit trees were working was pointed out as being, when carried close up to the bole of trees on walls, most detrimental. A distance of at least 3 feet was recommended to remain uncropped—merely Dutch hood—but we think growers would rather leave 5 feet clear if they could afford the space. The watering of wall trees was strongly and rightly advocated, because, as Mr. Bunyard pointed out, rain seldom falls quite vertically, and hence close up to the trunk of the tree the soil is frequently as dry as dust; in addition to this the well-known thirsty nature of brick walls was pointed out as having an important bearing on the question of watering. Inside as well as outside borders were referred to in this relation, as well as in regard to drainage and planting. Root and branch pruning received brief notice, but of course this subject is too great a one to have full notice in such a short paper as that prepared by Mr. Bunyard. The essayist therefore contented himself with generalities, and gave therein a few useful hints in negative form.

The due and proper thinning of crops was referred to, and it was stated that a moderate crop of first quality fruits would be found more remunerative than an immense crop of poor, undeveloped specimens. Harvesting was treated of as an important detail, and it was stated that upon this to a great extent depends the excellence of flavour and the keeping properties of practically all fruits. Late Apples and Pears gathered too early would, said Mr. Bunyard, shrivel and be useless, and everyone will agree that the errors made in the gathering of fruits are amongst the most serious of those committed by present-day cultivators. After passing other points in review, Mr. Bunyard laid stress on the absolute necessity of cleanliness, and pointed out the disadvantages of having rubbish heaps in fruit plantations or near the trees, as these simply became harbours for insects, which quickly found their way to the trees and commenced their work—a work of damage to the trees upon which they were feeding, and equally of damage to the owner of those trees. There were also many other points to which we cannot now advert.

In drawing to a conclusion, we think Mr. Bunyard went slightly out of his way to censure the Press. He had observed, he said, that varieties of fruits were recommended through the medium of the Press that were not suitable for the purpose in view, but we can hardly gather whence Mr. Bunyard gleans his information as to suitability to locality, seeing that inquirers rarely, if ever, send their full names and addresses for publication, but prefer to be known by an initial or a *nom de plume*. Of course, if Mr. Bunyard refers to the dozens of signed articles that appear in the several gardening papers he is taking an entirely different basis, and any editor of a gardening paper would welcome a controversy opened by Mr. Bunyard relative to some article which was not in consonance with orthodox ideas. Notwithstanding the censure expressed by Mr. Bunyard, we feel assured he will acknowledge that it is to the persistent support of the horticultural Press that the high status of present day fruit culture is largely due. Had the papers not unanimously advocated fruit growing, and forced upon their readers the absolute necessity of adopting the very best systems of procedure, Great Britain to-day would not have been able to boast

the production of fruits that are equal to any grown throughout the world, and superior to the vast majority.

The meeting was brought to a close by the expression of a cordial vote of thanks to Mr. Bunyard for his paper, of which the full text will appear in the Journal of the Royal Horticultural Society.

Bush Apples.

BUSH Apples are among the best and simplest forms of trees to manage, and if fruit has to be grown in small gardens where space is necessarily limited the cultivation of restricted bushes is indispensable. The finest and best coloured fruit can be produced, but not in unlimited quantities. It is better, however, to have a limited supply of good quality and excellent shaped fruit than an abundant and inferior crop. The quantity, as a rule, is mainly governed by thinning the crop. Bushes restricted in size are readily thinned and always pay for the trouble. Well managed trees are usually productive, hence they are interesting and may be made more so if the crop is limited to a fair number of fruits on each tree.

The best positions for restricted bush trees in small gardens is on borders by the side of paths, but of course at a reasonable distance from them. They can thus be readily reached for the necessary summer stopping, thinning, and gathering the fruit, and the cultural needs generally. Systematic and formal training is condemned by some, but in this case it will prove ornamental and at the same time highly profitable.

A most important point in the culture is to prevent overcrowding of the branches of each individual tree. Without this success cannot be achieved. Plenty of space between the branches will admit light and air freely to the interior parts of the bushes when they are furnished with foliage. The least distance at which bushes may be planted is 6 feet apart, but when planted so closely the varieties ought not to be of vigorous growth. Bushes of the latter class need to be at least 9 feet apart. These, however, are minimum distances, and it will be the safer plan to increase them several feet, as the closer the trees are the more watchful the cultivator must be to prevent them becoming overcrowded on the space by timely root-pruning. The latter is necessary with closely planted trees, even when they are on dwarfing stocks such as the Paradise. When having more room, root-pruning is not so essential. Summer pruning the side shoots calls for strict attention, so that the vigour of the growth is not wasted in superfluous shoots, but is concentrated on the fruit and the necessary buds for the succeeding year. If the bushes have healthy, sturdy, and stout textured leaves, and the roots are of a fibrous nature, a fruitful character will be insured. The aim of the grower must be to see that the bushes are not hampered by undue shade, or the rooting medium encroached upon by plants, however useful they may be when growing in a legitimate and proper position, but when competing with choice fruit trees are usurping their rights, and are like weeds, plants out of place.

Bush trees may be grown without restriction if planted wider apart, or should they be required to produce fruit early it is a good plan to insert double the number of trees, and not later than the sixth year take out half of them and plant at the distance of 12 feet apart permanently, the trees left being also at the same distance. The bushes may then be planted 6 feet apart every way. The year previous to the removal of the bushes they should be afforded a slight root-pruning. Take out a trench at the distance the branches extend from the trunk and cut off all the roots found. Fill up the trench again, making it firm. This root-pruning will induce fresh fibres to form, and the bushes will be ready to move the following autumn. The lifting and transplanting may be done as soon as the leaves begin to fall.

In the culture of bush trees mulching over the roots with manure in summer is an indispensable item in their culture. It maintains the soil moist, and induces the formation of fibrous roots near the surface. Some of the best varieties for bush culture are Mr. Gladstone, Margil, Beauty of Bath, Duchess of Oldenburg, and Lemon Pippin. These may be planted 6 feet apart. They are dessert varieties. Cox's Poinona, Devonshire Quarrenden, Reinette du Canada and Dutch Mignonne, being more vigorous in growth, require to be planted 9 feet apart. These are dessert or culinary with the exception of the second named, which is a choice early eating Apple. Good culinary varieties for bushes at 6 feet apart are Manks Codlin, Stirling Castle, Frogmore Prolific, and Lane's Prince Albert. At 9 feet apart Keswick Codlin, Lord Suffield, Potts' Seedling, Bismarck, Dumelow's Seedling, and Grenadier.—E. D. S.

NOTES & NOTICES

Recent Weather in London.—Unsettled weather has prevailed in the metropolis throughout the past few days, and a considerable amount of cold rain has fallen. This is much wanted in some districts, but in others drier conditions would be welcomed by land cultivators. When going to press on Wednesday morning it was dull and cool.

Weather in the North.—For several months there has been an almost uniform course of wet weather, with only an occasional dry day. Now and then, since the middle of October, there has been a slight frost, and latterly the hills have had frequent coatings of snow. Saturday was fine, and frost set in during the night, 5° being registered on the morning of Sunday and 11° on Monday. The afternoon threatened either snow or a thaw.—B. D., *S. Perthshire*.

National Chrysanthemum Society.—The annual dinner of the above society will take place in the Venetian Hall, Holborn Restaurant, High Holborn, W.C., on Wednesday, November 28th, at 6.30 P.M. sharp. Mr. T. W. Sanders, has consented to take the chair. The challenge trophy, Holmes' memorial, and other cups will be presented to the winners during the evening. Tickets 5s. each (exclusive of wine). On this occasion the presence of ladies is most desirable. Morning dress. — RICHARD DEAN, V.M.H., 42, *Ranelagh Road, Ealing*.

Allotments Association.—Sir Walter Foster, M.P., was re-elected chairman of the Allotments and Small Holdings Association, whose annual meeting was held at Birmingham the other day. In moving the adoption of the report, the hon. Member remarked that legislation which the association has been the means of putting on the Statute-book had somewhat narrowed its sphere of work, but from time to time it had been able to be of much use both in advice, negotiation, and in calling the attention of Parliament to defective administration. We should never get further land reform till the people woke up from their present lethargy.

Chrysanthemums at the People's Palace.—The seventh annual Chrysanthemum show, which was opened on Thursday at the People's Palace, reflected the highest credit on the members of the East London Horticultural Society. Altogether there were 272 exhibits, being an increase of fifty on the number for the preceding year. The exhibits were of a fine quality; indeed, says a daily contemporary, some of the cut blossoms equalled, if they did not surpass, similar exhibits at the most important horticultural shows. Some creditable Ferns in pots were shown in the children's sections, and several of the arrangements of cut flowers for the purposes of table decoration were marked by great good taste. Some fine exhibits of flowers and fruit had been lent by the Duke of Fife, the Duke of Norfolk, Mr. C. E. Shea, Mr. F. A. Bevan, Mr. C. B. Hayward, and Messrs. B. S. Williams and Son. The show was formally opened by Mr. G. Croft, who also presented the medals to the successful exhibitors.

Music and Plants.—That certain animals love music is beyond question, but it has not yet been proved that they love harmony much better than discord. Donkeys have been said by a naturalist to possess a natural affection for the penny flute; but a musician in New York has gone much further than the naturalist. He asserts that not only animals but plants have nothing less than a passion for sweet music. This notion has appealed to the American sense of the extravagant, and has found several supporters, the most advanced of whom is a Bostonian musician. Not to be outdone by New York, he avers that when he plays harmonies his Sensitive Plant "stretches abroad, drinking in the music like sunshine." If, on the other hand, he strikes a discord the plant trembles and closes. He goes on even to hint that if the vibrations are very harmonious the juices of the plant may be stirred to great and noble impulses. The theory has been welcomed in America as new; but unfortunately, says a contemporary, the precedent of Orpheus seems to have been forgotten altogether. If it had been remembered we should have heard of some Chicago musician who had surpassed Orpheus and other rivals by making the tree dance a *schottische*.

A Boulevard for Reading.—It was stated at a council meeting of the Thames Preservation League that the Reading Corporation was on the verge of completing arrangements by which they would acquire a long lease of a strip of riverside land 100 feet wide, and extending on the Berks side of the river above the town for a distance of two miles. The land is to be used as a boulevard and open space.

Great Chapters in the Book of Nature.—The annual course of Christmas lectures, specially adapted to young people, at the Royal Institution, will be delivered by Sir Robert S. Ball, Lowndean Professor of Astronomy in the University of Cambridge, whose subject is "Great Chapters in the Book of Nature." The first lecture will take place on December 27th, and the remaining lectures will be delivered on December 29th, and on January 1st, 3rd, 5th and 8th.

Gold in Trees.—The impecunious man may soon be seen grappling with the monarchs of the forest for the wherewithal to pay his way. In the "Zeitschrift für praktische Geologie" Herr Lungwitz writes of the gold in trees. It only amounts to from about 5d. to 5s. per ton of ashes. The metal tends to collect in the trunk near the roots. Of course the quantity is greater according to the auriferous character of the soil, and probably, too, the intensity of growth, so that in tropical countries gold may exist in many plants.

The Ashford Collection of Orchids.—Among the principal plants sold on the first day of Mr. G. Shorland Ball's Orchids at Ashford, Wilmslow, were *Cattleya labiata*, 85 guineas; *Lælia præstans alba*, unflowered, 60 guineas; *Cypripedium-insigne* Sanderæ, 100 guineas; *C. callosum* Sanderæ, 120 guineas; *C. insigne* Harefield Hall variety, 40 and 45 guineas respectively for the best; *C. insigne* Luciani, 90 guineas; *C. Lawrenceanum* Hyeaum, 55 guineas; *C. venustum* Measuresianum, 48 guineas. Buyers both from the north and south were represented. Mr. Harold Morris (Messrs. Prothero & Morris) was the auctioneer.

Exports of Servian Plums.—From Belgrade during the present year dried Plums to the value of 6,000,000 francs have been exported from Servia, and Plum jam to the value of 2,400,000 francs. In the year 1890 dried Plums were exported to the value of 7,300,000 francs, and jam to the extent of 1,300,000 francs. In addition to all this, says a contemporary, considerable quantities of fresh Plums for use as table fruit, or for the manufacture of spirits, are exported each year. A considerable trade at one time existed with this country in dried Plums, but that has been swept away by exports from France and California of fruits which have undergone a double drying process.

Vegetation in London.—The London Plane trees are shedding their bark with great unanimity and vigour. Soon the grime will have made the process less conspicuous, but at present, according to a contemporary, the Planes in New Square, Lincoln's Inn, and elsewhere are as brilliantly piebald as the drum-horse that led the Guards' Band through the streets on Lord Mayor's Day. In Lincoln's Inn a touching relic of the summer lingers on the walls of No. 12. The Vine, which covers the lower part of the house, has shed all its leaves, but against the grimy brick, inconspicuous except at a short distance, hang two fine clusters of ripe, black Grapes. Apparently the Benchers are so struck by the reports of the enormous French vintage that they have not thought it worth while to turn their own to account.

Memorial to the Late Mr. G. J. Symons, F.R.S.—On May 31st a meeting was held at the rooms of the Royal Meteorological Society to consider the question of a memorial to the late Mr. G. J. Symons, F.R.S., the distinguished meteorologist and founder of the British rainfall organisation. It was resolved unanimously that the memorial should take the form of a gold medal to be awarded from time to time by the Council of the Royal Meteorological Society for distinguished work in connection with meteorological science. An executive committee was appointed to take the necessary steps to raise a fund for that purpose. We have now much pleasure in stating that their appeal has been very heartily responded to, not only by meteorologists' engineers and representatives of other branches of science and industry, but also by personal friends and admirers of the late Mr. Symons in all classes. The committee have decided to keep the list open until the end of January, 1901, in order to allow all who have in any way benefited by Mr. Symons' advice and assistance to contribute to the memorial fund.—R. MELDOLA, F.R.S., WM. MARRIOTT, Secretaries, 70, *Victoria Street, Westminster, S. W.*

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Lee and Blackheath Horticultural Society.—The winter meetings of this society include papers on the following subjects:—November 30th, "Stove and Greenhouse Bulbous Plants," by Mr. J. Pearce; December 21st, "Economy and Efficiency in Manuring Gardens," by Mr. E. Owen Greening; 1901, January 25th, "The Green Leaf and its Work," by Mr. George Gordon, V.M.H.; February 22nd, "Gardening as a Profession," by Mr. T. W. Sanders; and March 29th, discussion on "Culinary Vegetables," to be opened by Mr. F. Fox.

Birmingham Gardeners' Association.—At the usual fortnightly meeting, held on the 12th inst. at the Athletic Institute, Mr. Walter Jones in the chair, Mr. William Spinks (manager to Messrs. Hewitt & Co.'s nurseries) was responsible for an entertaining address—the third annual one—pertaining to comments on some of the principal exhibits at the recent grand Chrysanthemum, fruit, and vegetable exhibition held in the spacious Bingley Hall. The subject was, as usual, looked forward to with considerable interest by the members of the association, and was admirably dealt with. In the animated discussion which followed various suggestions were advanced by several of the members present.

Otley Gardeners' Society.—The fourth annual show of the Otley and District Fruit and Vegetable Society was opened in the Mechanics' Institute on Wednesday last by Mr. J. H. Duncan, M.P. There was a large attendance of the public. The competition amongst the exhibitors was much keener than at any previous show, and the quality of the exhibits was superior. The awards were:—Group of Chrysanthemums.—First, Colonel W. C. Dawson, Weston Hall (gardener, Mr. R. Craigie). Second, Mrs. Constable, Manor House, Otley (gardener, Mr. W. H. Aldridge). Third, T. A. Duncan, Esq., Westbourne, Otley (gardener, Mr. J. Phely). Cut blooms, eighteen Japanese Chrysanthemums.—First, Mr. T. Duncan. Second, Mrs. Constable. Twelve Japanese, dissimilar.—First, Mr. T. Duncan. Second, Mr. T. Bird, Windhill. Six Japanese, dissimilar.—First, Mr. T. A. Duncan. Second, Mr. T. Bird. Third, Colonel Dawson. Six incurved, dissimilar.—First, Mr. T. Bird. Second, Mr. T. A. Duncan. The principal winners in the classes for exhibitors residing within a radius of five miles of Otley were Messrs. T. A. Duncan, T. Duncan, H. Barraclough, J. Waring, F. H. Fawkes, Farnley Hall; E. A. Brotherton, H. Barker, J. Pickles, Colonel Dawson, T. Aston, Rawdon; H. Pullan, F. Bartle, A. Hollings, R. Gatecliffe, W. Shelton, R. Lofthouse, A. and S. Ives, H. Ives, F. Driver, A. Youngman, S. Hartley, W. Marston, J. Longstaffe.

National Amateur Gardeners' Association.—An interesting paper on fragrant trees and plants was read by Mr. Donald M'Donald at the recent meeting of the National Amateur Gardeners' Association. Sir G. C. M. Birdwood presided. Mr. M'Donald gave a brief account of the early uses of fragrant plants, and enumerated the various places of their origin, mentioning that it was not until the times of the Crusaders that any particulars about flowering plants and garden trees were to be gleaned. Some of the customs of distributing sweet-smelling herbs about churches and other public places were in force in the present day in the City of London. In recent years the cultivation of plants and flowers in large areas had attained to important dimensions wherever the climate gave them sufficient intensity of odour for profitable extraction. In England there were the Lavender and Peppermint fields at Wallington, Mitcham, and Canterbury, and the herb fields in Cambridgeshire and Lincolnshire. Many thousands of acres in the south of France were devoted to flower growing for commercial purposes. The enormous demand for scents and perfumes, as shown by statistics, gave rise to the question whether it would not be advantageous to the community in general to develop the production of such of the raw material, consisting of essential oils extracted from flowers, fruits, herbage, wood, and roots of plants, as could be grown in this country and its colonies. While our climate would not admit of the cultivation of Orange blossoms as a commercial crop, there was no reason why such plants as Lavender, Peppermint, and Camomile should not be grown on a greatly extended scale, and be much more profitable than were many crops now put on the land. The lecture was illustrated by a number of limelight views, and various fragrant plants and seeds were shown on the platform.

Gardening Appointment.—Mr. John Wright, for some years head gardener to Edwin Ellis, Esq., Summersbury, Shalford, Guildford, has been appointed in a similar capacity to H. Chandos Pole-Gell, Esq., Hopton Hall, Wirksworth, Derbyshire.

Wargrave Gardeners' Society.—At a fortnightly meeting of the above association Mr. J. Caswell read a paper on "Crotons and their Management." After naming the different varieties of this ornamental foliage plant, he gave full directions in cultivation. The various insect pests were noted and their eradication discussed. The exhibits were of good quality.

Gainsborough Chrysanthemum Society.—The annual exhibition of this society, held on Wednesday last, was a distinct advance upon previous ones. In the open classes for Japanese the chief prize-takers were Col. Hutton, Gate Burton; Mr. S. Kelsey, Marton; Mr. R. C. Bacon, Willingham Hall; Mr. J. D. Sendars, North Sandsfield. Col. Hutton also secured the special prize for the best bloom in the show, a magnificent Mrs. C. H. Payne. In the large group competition Mr. F. M. Burton secured the first prize, Mr. J. W. Connell second, and Col. Hutton a special third. Mr. S. Gray took the first prize in the small group competition. The chief bush prizes went to Colonel Hutton. In the amateur classes Mr. R. W. Forrest, Marton; Mr. F. Mercer North Warren; and Miss Swift were prominent.

The Rain.—How soon the public generally and individually grumble when the weather assumes a wet aspect. Possibly it tends to show that after all humanity is a fair weatherbird. It rejoices in and crows lustily when it is victorious. It is enraged and howls vindictively when it is beaten. Just so it is with the weather. Let it be fine and dry and everything is then pleasant, but if it rains then is the weather horrid, unbearable, detestable. Of course such growlings are absurd. We could not, as a people, exist without these wet days, and but for the rain vegetation, the life blood of our food supply, would be exterminated. Really were we less cross and pettish and more philosophical we should welcome these continuous rainfalls as of the greatest blessings we can enjoy. How, under hot continuous sun heat, when the earth is parched with drought and all vegetation hangs listlessly, as though in pain or in death, do we sigh for the moisture to relieve us and all nature, for the rains then so welcome but now so annoying. The heat and drought does good in some way, the rains do good in nearly all ways, and they invariably do much at this time of the year. We have had on the whole a good summer and autumn, and now that the winter is here with its rains and snows, frosts, and winds, it is, indeed, folly to repine or complain because the weather is not that of summer. Gardeners, as much as those of any vocations, suffer inconvenience from continuous wet weather, but they recognise its great value and bear with it in a wise and sensible spirit. All our trees and shrubs, our general crops, our land, our streams, water-courses and rivers, will alike benefit from the present rains, and whilst their interference with human comfort or enjoyment will be but brief, their effects on vegetable life will be enduring.—A. D.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.					
1900.										
November.										
Sunday.. 11	S.S.E.	deg. 35.6	deg. 32.8	deg. 46.3	deg. 27.2	ins. 0.01	deg. 44.3	deg. 51.1	deg. 53.2	deg. 19.4
Monday.. 12	S.S.E.	42.7	41.5	56.1	31.9	0.13	43.1	49.8	53.2	23.6
Tuesday 13	S.W.	56.3	54.9	57.0	42.5	0.07	47.2	49.2	52.8	42.0
Wed'sday 14	W.S.W.	45.7	45.4	50.6	34.9	0.09	46.5	49.9	52.4	27.5
Thursday 15	S.S.E.	47.1	46.2	53.8	39.2	0.04	46.5	49.8	52.2	31.4
Friday .. 16	S.S.E.	45.7	44.6	48.1	40.3	0.36	45.7	49.5	52.2	29.5
Saturday 17	N.N.E.	46.9	45.3	48.0	42.5	0.06	46.1	49.3	51.9	37.6
MEANS ..		45.5	44.4	51.4	36.9	Total 0.80	45.6	49.8	52.6	30.1

A sharp frost occurred on the morning of the 11th inst., destroying Dahlias, Pelargoniums, Marguerites, &c., which were flowering profusely. Rain fell more or less every day during the week, and on the 16th inst. was accompanied by a dense black mist, the water on the ground being the colour of ink.



Imported Fruit.

As a set-off to the very good home-grown fruit exhibited in the competitive classes at the Kingston Chrysanthemum Show on the 6th and 7th inst., Mr. H. Shepherd, a well known local fruiterer, staged a very fine and varied collection of imported fruit to enable visitors to learn something of our fruit imports, and dependence on other countries for our supplies. There were staged some twenty diverse kinds, prominent amongst which were forty fine Queen and Smooth Cayenne Pines from St. Michael's; huge clusters of Bananas from the Canary Islands; Melons, both large and small, from St. Lucia and Guernsey; Citrons from Madeira; Pomegranates from Malta; French Pears, Spanish Grapes, Guavas, and Custard Apples from Madeira; also Persimmons and Mangos from the same place; Canadian and Nova Scotian Apples, new Oranges from Las Palmas, Lychees from China, also Chow Chows, and Nuts. Needless to say the collection created great interest.—A. D.

The Apple.

I HAVE to thank "A. C." for the kind way he refers to the article on the Apple at page 413. Personally, I am more pleased that it has been the means of extracting so clear a testimony as that of "A. C." on behalf of the Apricot having been the Apple of the Scriptures. With regard to the interesting remarks of Mr. Castle, it is due to your readers to say that the old references to the Pomewater Apple, some by inference, others explicitly, almost all go to indicate a large fruit. In shape Gerarde's figure approximates to Dutch Codlin; Parkinson's is flatter. The name disappears at the time noted, though as late as 1884 an Apple is described under the designation in "British Apples" from specimens grown in the gardens at Chiswick, and exhibited at the Apple Congress in 1883. I quite agree that the name, nor nothing like the name, can be found in old lists of French Apples, but that in no way affects the question of its having been originally a French word. I have formed an opinion as to what that word is; but, lacking confirmation, one must be content to allow Pomewater to remain what it is and as it is—a meaningless hermaphrodite.—R. P. BROTHERSTON.

Awards at the Drill Hall.

THE supercession of an award to an ordinary group of flowers made by the Floral Committee, by a deputation of members of the council of the Royal Horticultural Society, is an act that it is feared may breed unpleasantness. Of course each member of the committee knows that these bodies have no power to make awards direct, whether of certificates or medals, but may only recommend them. That fact leaves in the hands of the council full power to refuse to grant such awards, or even to vary them on occasion. But still it is the exception—and a most marked exception—to refuse or to vary any such awards. Practically the awards made at the committee tables have been, and are, the awards of the council. But the case in question—viz., exchanging an award of a silver-gilt Flora medal, the highest award but one a committee can make, to a gold medal, the variation in the award being made by members of the council—seems to have an element of arbitrariness about it, especially that the chairman of the Floral Committee, who is more than any other person responsible for the acts of that committee, is also a member of the council, and should have been specially consulted ere the alteration was made.

That there are elements of weakness in the Floral Committee's medal awards there can be no doubt, because they are made by a few, some four or five members, constituting an award sub-committee, and not by all the members, as is the case with similar awards made by the Fruit and Orchid Committees, who proceed to inspect each group or collection brought to its notice, and making the award in full committee. Certainly the Floral Committee have many groups placed before it, and with a large number of members its labours may be unduly prolonged. But the labour all the same should be faced manfully, making each member of the committee responsible, so far as his vote is concerned, for such award. The wisest course would be to take the groups or collections in their order in the hall, invite each member to take mental or written note of the merit of each, then to return to the table and vote the awards.

Some bad feeling seems to have been engendered in relation to the original award of a silver-gilt Flora medal in the case under notice, because one of the members of the judging or sub-committee was a trade antagonist or competitor. But there may not have been the least reason for such feeling, no proof being furnished that any

animus was displayed. Assuming that such animus was evidenced, it is most certain that one person in five can display much greater power to influence the rest than could be the case were the full number at least fifteen.

At the meeting held on October 24th last year the same exhibitor was awarded a silver-gilt Flora medal for what was in the Society's Journal described as "a magnificent display of Chrysanthemums." I do not recollect that any protest against the award was made then. Still further, I do not think that the recent exhibit was better in any way than was that of last year. Personally, I thought a silver-gilt Flora medal met all requirements. When the first of this description of group was seen at the Drill Hall it was novel and attracted great notice. Now they are practically common. The last gold medal given for any similar one was to Mr. Lees when gardener at Trent Park, and that was a group, as we all remember, of singular extent and beauty. Surely no one can wish to see gold medals common?—CRITIC.

Spade v. Fork.

IN your issue *Journal of Horticulture* of the 8th November I observe in notes on kitchen garden, page 431, that the spade is more suitable for digging light and moderately free working soils, but a fork is the better implement for those of a heavy nature. Now, sir, I have always been taught and recommended the reverse—viz., the fork for light soils and the spade for heavy soils. My soil is of the poorest heavy clay, and it would be quite impossible to use the fork; in fact when I first took over my present charge seventeen years ago I had to employ forks instead of the spade. True, what with heavy dressings of manure, lime, and what soot I have been able to procure, the ground is now in a very different condition from what it was. Having worked on light soils for nine years I speak from practical experience, and would like to hear what gardeners who, like myself, are situated on very heavy clay soils have to say on the subject.—W. SHEPHERD.

Begonia corallina.

WHAT a charming plant is this! It lends itself admirably for wall, pillar, or roof decoration during the greater portion of the year if planted in a suitable medium in a border, also in large pots. In the fine long glass corridor at Highbury it forms one of the most attractive features, and is a favourite with Mr. Joseph Chamberlain. I was recently most agreeably surprised at a Midland horticultural show to find one or two well-flowered plants of it doing effective duty in a group arranged for effect, and where the elegant depending clusters of light coral-red inflorescences appeared to great effect amidst especially a setting beneath of bright and richly coloured Crotons. I do not recollect ever having observed this Begonia used as indicated at either of the several grand shows held at Shrewsbury or Wolverhampton I may have had the pleasure of attending; curiously, too, it has been but seldom that the beautiful hybrid tuberous section of Begonias has received recognition by "groupists" at the above exhibitions, but I opine that the judicious introduction of a few of either the single or double flowered varieties grown specially for the purpose—such, for instance, as those contained in the gold medal collection of Mr. F. Dawes, of Pershore, at Wolverhampton Show—should be admirably adapted for the purpose.—W. G.

Apple Competition at Reading.

A LEADING exhibitor of Apples at the recent Reading Show, and whose collection of twelve dishes was admittedly of the highest excellence, found, to his annoyance and disgust, that with five other competitors, he was disqualified by the judges—bappily I do not know who they were—and because Gascoyne's Scarlet had been included in kitchen varieties. The Reading schedule imposed on competitors the same classification as that of the R.H.S. Crystal Palace Show list. When the Reading schedule was issued the R.H.S. list, that of 1899, classed Gascoyne's as a dessert variety only. It then did the same with Blenheim Pippin. But because it was pointed out that fine representative fruits of these two popular Apples were shut out from competing because of the conditions as to size, the R.H.S. this year included large fruits of both varieties in their classes for kitchen Apples, as well as for small fruits in the dessert classes. That fact seems to have been overlooked by the Reading judges, as according to the schedule conditions they were bound to adhere to the R.H.S. classification, which this year included Gascoyne's as a kitchen Apple.

Unless the Reading condition specifically declared that the competition there would be conducted under the R.H.S. classification for 1899, then it was absolutely certain that the conditions of the Crystal Palace Show for September 27th must govern the decisions at the Reading Show held six weeks later. Evidently if such condition was not imposed each disqualified exhibitor has a material claim on the Reading Committee, for it should have been their duty to have ascertained facts and then have overridden the decision of their judges.—OBSERVER.



Kalmia glauca.—*Kalmia glauca*, a free-flowering dwarf shrub, with reddish blooms appearing in April and May, makes a good bed. It likes a peat, as do all the American plants, and these are admirably adapted for planting in groups, the foliage being as effective as the flowers, which, as is well known, are amongst the handsomest we have. They all form close balls, and on this account may be transplanted with as much certainty in May or June, immediately after flowering, as at any other period of the year, it being desirable at that time to plant them in prepared beds of peat soil; but in autumn they may be removed to the flower beds with as much soil adhering to the roots as possible, and planted in their winter quarters in ordinary soil, where they will bloom nearly (I think quite) as well without as with peat soil. They certainly are grown more safely in pots in sandy peat soil.—A.

Begonias in Beds.—Seedling tuberous *Begonias* are becoming more popular as bedding plants every year. If they are planted in beds about the first week in June they will continue to bloom till the frost cuts them down, when they can be lifted and put in a dry, airy shed till the tops die off, and then be stored away in sand for the winter. In spring they should be overhauled to see if they are inclined to start into growth; and if so, they should be placed thickly in boxes, using plenty of leaf soil and sand with the loam, and putting the compost through a half-inch sieve, taking care to provide free drainage. They should be placed in a cool house to give them a start, and from there be removed to a cold frame, but from which frost is excluded, keeping them near the glass so they do not get drawn, giving plenty of air to thoroughly harden them. When hardened, they should be placed in the open air for a week or ten days previous to their being planted out in the beds. A slight covering should be placed over them at night if cold.—T. F. R.

The Seeding of Bulbs.—Bulbous flowers, like all others, can reproduce themselves from seed. If this seed is allowed to mature and then taken care of and sown at the right time, interesting results can be obtained, and possibly new varieties which will be worth perpetuating. But, as a rule, amateurs do not care to wait three or four years for a bulb to flower, and in this case it is better to cut off the seeds of all bulbous plants as soon as ever they have finished flowering. If the seeds are left on—and some bulbs, like *Gladioli*, *Tiger Lilies*, and *Tulips*, sometimes produce enormous fruits—the leaves, instead of devoting their whole energy to making food to store away in the bulb, have to supply a deal of nutriment to the seed vessels, the seeds in which, of course, like the bulb, store up food material for future growth. The result is that, except in the case of very strong bulbs and bulbs in very favourable positions, the bulbs get smaller year by year. By cutting off the seed vessels all the food material which would have gone into the useless seeds will go into the bulbs, resulting in finer growth next year.—P.

Jottings on Pines.—Young Pine plants need liberal ventilation at this time of year to prevent a soft attenuated growth. Little water will be required, but the plants should be examined about every ten days. In the fruiting department no opportunity should be lost of closing the house at 85°, keeping the night temperature at 70°, or a few degrees less in severe weather. Remove all superfluous suckers, retaining one only, or at most two if stock be required, on each plant. Suckers that appear on successional plants before the fruit is visible should be removed; exceptions are when the stock is to be increased, and then the fruit is more or less sacrificed in its favour. At this time of year it is usual to make new beds of fermenting material for the young plants. Tan is the best, but it is difficult to procure in some places. In most country places Oak or Beech leaves can be had for the collecting, and this being done whilst they are fairly dry, they form an excellent substitute. Those intended for use later cannot be too dry, placing them in stacks forming a span roof, and thatching roughly. In forming beds of leaves they must be put together as firmly as possible. Thrown in any way the material settles very unevenly, and gives far more trouble afterwards than that needed to do the work properly at first.—PRACTICE.

Wallflower Golden Beauty.—Amongst yellow Wallflowers Dickson's *Golden Beauty* occupies a foremost position amongst present day varieties. Belvoir Castle was at one time a great favourite of mine, but the newer form certainly is superior. The rich golden yellow colour is so intense that it strikes the ordinary person at once by its intensity. The petals possess much substance, the habit of growth is all that is desirable, being compact, with dark green leaves. Growers of Wallflowers would do well to add this to their list for next season's display.—E. M.

Hypericum uralum.—This Himalayan plant is one of the prettiest of its genus, and, flowering as it does from the beginning of September until cut off by frost, has an additional value in the garden at a time when flowers are getting scarce. The slender branches are opposite and decussate, each one terminating in from three to ten flower buds, of which only one or two are open at a time. The flowers are inverted, but their deep golden yellow colour is quite as conspicuous on the back as the front of the flower. The edges of the petals are rounded and reflexed. Seen from a short distance the plant forms a pleasing picture with its spots of yellow, mingled with tender green of the foliage. The leaves are about an inch long, sessile, ovate-lanceolate in shape, and slightly shining. It forms a bush about 3 feet in height, and strikes readily from cuttings.—C.

Nuttallia cerasiformis.—This is a deciduous shrub from California, closely allied to the *Prunus*, though differing somewhat in its general appearance. It forms when well developed a plant about 5 feet high, and 7 or 8 feet in diameter, spreading by suckers, which root and form small plants closely clustered around and still connected with their parent. It will grow in almost any soil, is perfectly hardy—at least in the southern half of England—and is a distinct and striking plant whether in flower or leaf. The flowers, which appear in the early spring, are borne on the leafless branches in short racemes from nearly every joint of the younger wood, and give the plant a general appearance not unlike that of the common Flowering Currant. Individually the flowers are very small, and of a pure white, the two sexes being on different plants, so that if fruit is required both should be planted together. The male form is not scented, but the female has a faint, distinct odour, somewhat resembling that of Hawthorn. The leaves are about 2 inches long, smooth on both sides, and of a glaucous hue beneath. It can be propagated by detaching the suckers when they have attained a fair size, or by seeds, which, however, are rarely produced in this country. It is sometimes known under the name of *Prunus californica*.—KEWITE.

Wholesale Cider Making.—One of the largest cider mills in existence, says the "American Agriculturist," is located in Middlesex Co., Mass., where it has been established for generations. The big graters and presses are capable of working up no less than 8000 bushels of Apples every twenty-four hours during the cider-making season of seven weeks. Long lines of teams are always waiting for their turn to unload, taking positions and securing numbered tickets a long time in advance. Some of the Apples are shipped on freight cars, the mills siding directly upon the railroad, and these Apples, after freight is paid, net shippers 6 to 8 cents per bushel. Whether shipped on cars or brought in waggons, the Apples are first weighed in bulk and then hoisted to the top of the mill. Unloading cars is hastened by two steam shovels, each of which does the work of four men with scoops. A car contains 500 to 800 bushels, so that from ten to sixteen carloads would be needed each twenty-four hours. The steam shovels unload 1200 bushels per hour. The graters are cylinders set with fine-toothed blades, which crush the Apples to the finest pulp. The smallest cells of the fruit are crushed, and the juice can be pressed out much more quickly and completely than from pulp which is merely ground. The steam press leaves the pomace almost dry enough to burn, but dairymen make it the staple winter feed, paying 50 cents per ton at the mill. The cider flows into vats in the cellar to work off impurities. Next it is pumped into shallow metal tanks, partly filled with very clear white sand, through which it filters and becomes purified. After this process it will keep for a year without much fermentation. It is kept in the storage building in large wooden tanks, with an aggregate capacity of 43,000 gallons. These tanks are frequently cleaned during the year, to remove any possible cause of souring or spoiling the cider. When wanted for sale it is drawn off into barrels. The entire product is sold in the English and American markets. We wonder how it compares with the excellent brands of Messrs. Bulmer, Watkins, and others, and if their supplies are inadequate to British demands.

Hamwood.

THE climate of many districts of Ireland is admirably suited for several kinds of vegetation, and admirers of the beautiful will find in that favoured island much to admire besides the scenery delightful indeed as that is. The climate seems particularly favourable for shrubs and trees as well as for hardy flowers. One of the many estates where good work in the adornment of the place has long been carried on is Hamwood, co. Meath, the seat of Mr. Charles R. Hamilton. The mansion itself is one of those houses typical of the period in which it was built—roomy, but with no great pretensions to architectural effect. This,

of these are very effective at their flowering period, and those of evergreen habit give an air of brightness to the place when there is little in bloom.

Looking at all the surroundings one cannot but admit that these beds are quite in keeping with the scenery around them. Among the beds are several, either altogether filled with, or bordered by Heaths, which are favourites here, such as *Erica carnea* and its white variety, with *E. vagans* and others. Golden Hollies, Mahonias, Rhododendrons, Azaleas, and other fine shrubs are also plentifully planted in these beds. One of the prettiest features is the fine Silver Birch shown in the photograph. Unfortunately the picture does not bring out the size of this tree or its charms when in foliage. On the opposite side is a fine Copper Beech of large size and finely coloured. Many fine



AN AVENUE OF CONIFERS AT HAMWOOD

however, matters less, as the taste of its successive owners has led to the walls being covered with Ivy and other creeping plants. The mansion was built about 1770, and the Hamilton family, who came originally from the north of Ireland, have devoted many years to the improvement of its surroundings.

The present owner is a devoted and unusually well-informed horticulturist and arboriculturist, and since he came into possession of the estate much has been done to render it more beautiful. One of the illustrations which accompany this, and which are by Miss Mabel Gaisford, is of a portion of the grounds in front of the mansion. Here, there were for many years a number of beds filled with bedding plants. It was felt that it would be an advantage to have something more permanent, and these beds were filled with shrubs. Many

specimens of rare trees are to be seen near the house in various directions. One may mention a fine plant of *Pavia macrostachya*; *Pittosporums*; the distinct *Pinus aristata*; a good Fern-leaved Beech; Waterer's Blue Spruce, *Abies pungens argentea*; *Abies polita*; Purple Berberis; and a noble *Cedrus deodara*. *Juniperus recurva* was extra fine, and *Rhus cotinus*, in various forms, exceedingly effective. A capital specimen of *Abies ajanensis*, from North Japan, planted about twenty-five years ago, is now 30 feet high. Noble specimens of *Pinus insignis* adorn the grounds, and our illustration will give some idea of a fine avenue of these and other Conifers along which it is a rare pleasure to walk, delighting the eyes meanwhile on the stately trees among which we pass.

On the way to the walled garden we pass many shrubs and see a

number of hardy plants. Creeping plants are prized by Mr. Hamilton, and both sides of the garden walls are covered with a great variety of climbers and shrubs which thrive best with the protection of a wall. Magnolias, Ceanothuses, Roses, Solanums, Clematisses, Wistarias, and a number of others clothe these walls with beauty. The walled garden is divided and sheltered by fine Beech hedges, about 100 years old; and in their shelter thrive many plants reputedly tender. There was a nice *Chamaerops* in fruit and many of the best Magnolias ornament the borders. Some of these are standards, and one observed among them *M. Lenné*, *M. Watsoni*, *M. conspicua*, *M. parviflora*, and others. Shrubs do much to make the garden effective, and among them we see masses of *Gaultheria Shallon*, *Kalmias*, *Azaleas*, *Calycanthus grandiflorus*, tree *Pæonias*, *Cornus rubra*, *Hamamelis*, *Azara microphylla*, *Choisya ternata*, *Clerodendron trichotomum*, and many other

with scarlet *Gladioli* makes a fine bed; Crown Imperials are in the same bed for spring bloom, the whole being edged with *Erica vagans*. The fragrant *Mignonette* is well grown, the beds annually receiving at least an inch of fresh soil. A remarkable feature is a fine hedge of *Ruscus racemosus*, rarely, if ever, seen so fine as at Hamwood.

A look into the houses shows us that the indoor work receives due attention. A splendid house of Muscats was worth seeing, and one was surprised to learn that it had been started without heat. A grand collection of *Gloxinias* was also observed, with the other inhabitants of the houses, in perfect health. A charming fernery, filled with Ferns and foliage *Begonias*, and cool and pleasant to the eye, was also entered.

At the back of the mansion there are beds of shrubs in the grass,



THE PLEASURE GROUNDS, HAMWOOD.

good things, not the least noteworthy being trellises covered with the best varieties of *Cydonias*. On trellises and over arches and in little Rose gardens, each with its sheltering hedge, are Roses, both old and new, from the old Apothecaries' and old Monthlies to the newest hybrids; they give multitudes of flowers.

Herbaceous plants are also grown in great quantity. The clumps of *Funkias* are the finest I have ever seen. *Anemone japonica* is grown in extensive numbers and in considerable variety. *Montbretia rosea*—a plant far too little known—is appreciated; and *Asters*, *Hemerocallis*, *Montbretias*, *Lilies*, *Helenium autumnale*, German *Irises*, *Iris reticulata*, Crown Imperials, and other good flowers are not only to be found in the borders, but also in beds in the reserve garden for cutting. The blue *Salvia patens* is hardy at Hamwood, and

the latter being full of *Anemone appennina*, which is a lovely sight in spring. There are Daffodils in tens of thousands all about, and one can only guess how beautiful they will appear in their season. There are new Lilacs throughout the grounds, a *Weigela* walk, and several other charming features, while one had almost omitted to name the Nut walk in the flower garden.

A new orchard and vegetable garden, enclosed and planted a few years ago, were also visited. There has been a capital fruit crop, Apples being particularly plentiful. Strawberries were also a large crop. One cannot hope in these notes to exhaust the treasures of Hamwood. They will, however, one hopes, give an idea of what can be done with a lovely place in the hands of an owner of taste, who is also a lover of plants.—S. ARNOTT.

Chrysanthemum Shows.

Bishops Stortford, November 14th.

THE second annual exhibition of Chrysanthemums, fruit, and vegetables was held in the Great Hall, and proved a distinct advance on last year's exhibition, and there appears to be quite a possibility of its making a name for itself throughout the eastern counties, as has the great summer exhibition held in August. Messrs. T. Rivers & Son, of Sawbridgeworth, sent a complimentary collection of Apples and Pears, which greatly added to the show. Both these fruits in several varieties were exhibited on trees grown in pots, and several dishes of Apples and Pears from pot trees and trees in the open ground were shown. Groups of Chrysanthemums were not numerous; foliage plants were used as an edging only, and highly coloured Crotons helped greatly to enhance the beauty of the arrangements. Mr. G. Beech, gardener to J. Barker, Esq., M.P., The Grange, Bishops Stortford, secured the leading prize, followed closely by Mr. J. Richardson, gardener to Sir James Blyth, Blythewood, Stanstead, Essex, the third prize falling to Mr. Skelton, The Graperies, Bishops Stortford, for an arrangement very similar to the preceding ones. For six trained specimens Mr. Skelton won the first prize.

Much interest was centred in the cut bloom class, and for twenty-four Japanese blooms, distinct, Mr. G. Barker, gardener to H. A. Blythe, Esq., Stanstead House, Essex, took first prize with a very even stand of blooms; Mr. A. Jefferies, gardener to John Balfour, Esq., Moor Hall, Hailow, Essex, was second; third, Mr. Skelton. For twenty-four incurved, distinct, Mr. Barker was first with a stand of even blooms, second honours falling to Mr. T. H. Lodge, gardener to Mrs. Menet. For twelve Japanese blooms, distinct, in the members' class, Mr. G. Barker took first prize with excellent blooms, and Mr. A. Jefferies again followed closely; third, Mr. W. Harrison, gardener to Col. Archer Houlton. For twelve incurved, distinct, Mr. W. Harrison was awarded first prize for well finished blooms, being much nearer the type than those in the twenty-four stand; second, Mr. T. H. Lodge.

For four vases of Chrysanthemums, distinct, five blooms in each vase, Mr. W. Harrison was first; second, Mr. E. Harris, gardener to Mrs. Taylor; third, Mr. Skelton. For an arrangement of six blooms with any kind of foliage Mr. Fulford, gardener to A. G. Sandeman, Esq., Presdales, Ware, was first, using Croton and Eulalia foliage; second, Mr. Lodge; third, Mr. Beech. A class, which is not usual at autumn shows, provided a prize for the best single bloom to be arranged at the discretion of the exhibitor, and evoked much interest. There were several exhibits, but Mr. A. Jefferies of Moor Hall was placed first with a magnificently coloured specimen of Edith Tabor; its size and form left nothing to be desired, which will be better understood when it is stated that it beat huge specimen blooms of Madame Carnot and G. J. Warren from Mr. G. Barker and Mr. Fulford, who were placed in the order named.

Table plants, winter flowering Begonias, and vegetables were well shown, as also were Apples and Pears. Great credit is due to Mr. W. Smith, the hon. secretary.

Maidenhead, November 15th and 16th.

THE third exhibition of this society was held in the Town Hall on the above dates, when Chrysanthemums, decorative plants, vegetables, and fruit were shown in first class form, groups and tables of plants being staged in grand style. For a group of Chrysanthemums, with foliage plants, Mr. Perkins, gardener to the Hon. W. F. D. Smith, Greenlands, Henley-on-Thames, was placed first; Mr. J. Fulford, gardener to F. D. Lambert, Esq., Moor Hall, Cookham, being a close second; and Mr. Howard third. In the open class for thirty-six Japanese, not less than twenty-four varieties, Mr. Perkins gained the coveted award, also the N.C.S. certificate, with excellent blooms; Mr. Fulford was second with an even stand of blooms of good colour; third, Mr. G. Lane, gardener to Miss Ridge, Highfield. For twenty-four incurved, not less than eighteen varieties, Mr. G. Lane won the premier prize, followed by Mr. J. Fulford.

In the class for twelve Japanese, distinct, Mr. J. Minty, gardener to C. Saxton, Esq., won the first award with grand blooms; Mr. Perkins second; third, Mr. Mount. Twelve incurved, distinct.—Mr. C. Young, gardener to G. Field, Esq., Bray Court, first; second, Mr. Fulford. The class for eight vases of cut flowers, three of one variety of each, brought out some superb blooms. Here Mr. Fulford won the first with a capital exhibit, also taking the N.C.S. certificate. The best blooms were J. R. Upton, Anstrale, Miss Nellie Pockett, and Le Grand Dragon. Mr. Perkins was a good second.

In the half dozen Japanese, distinct, Mr. Gibson, Danesfield, Marlow, first; Mr. J. Luck second; Mr. A. Pearce third. For six Japanese, one variety, Mr. Perkins was placed first with Anstrale, and Mr. Gibson second. The six incurved, one variety, fell to Mr. Fulford with Duchess of Fife, followed by Mr. Lane with Ma Perfection. For a basket of twelve Japanese, arranged with autumn foliage, Mr. Young was first.

For a table of plants arranged for effect, first Mr. Fulford, second Mr. Gibson, third Mr. J. Richardson. In a class for six foliage and six flowering plants the same exhibitors were placed in the order named. For six Begonia Gloire de Lorraine, in 48-pots, Mr. Fulford was first with splendid plants; the same exhibitor leading with six table plants, followed by Mr. Hutt. For table decoration, Mrs. Wood, Hedsor Cottage, first, Miss Fowler second.

In the fruit classes Messrs. Paxton, Hutt, Fulford, and Lane were the chief prizewinners; Messrs. Gibson and Goodman taking chief honours for vegetables. Bouquets, wreaths, and sprays were shown by Messrs. Such and Broughton; whilst Mr. Owen, Castle Hill Nursery, staged a stand of seedling Chrysanthemums. Messrs. I. House and Son showed a grand collection of Violets. The arrangements were ably carried out by Mr. J. W. Stone, hon. sec.

Bradford, November 16th and 17th.

THE Bradford Chrysanthemum Society scored another great success with a well arranged display of particularly meritorious exhibits. The groups of Chrysanthemums were excellent, and considerably better than any shown in previous years. Mr. L. Shearman, Undercliffe Cemetery, proved the winner of the handsome cup given by the Mayor of Bradford for this group of Chrysanthemums. The competition for the miscellaneous groups arranged for effect was very keen; Mr. T. H. Moore, gardener to Sir F. Ripley, eventually received the first award for a beautiful arrangement of choice foliage and flowering plants. Specimen plants were of good average quality. The first prize for six specimens went to Mr. J. W. Hatton, Heaton, who showed a particularly clean and neat lot.

The competition for the 10-guinea challenge cup showed a considerable falling off; four exhibitors only staged, but the lack of quantity was compensated by the superb quality. Curiously enough the award of last year was reversed. Messrs. Fairbairn & Son, Carlisle, the winners of last year, had to be content with third place; while Mr. Midgley, who scored third last year, came off with flying colours; and the cup having been won three times becomes now his absolute property. His stand of twenty-four blooms was particularly good. The best flowers were Nellie Pockett, Janet, Lady Clarke, G. J. Warren, Lady Hanham, Chenon de Léché, a grand flower; Reginald Godfrey, Hero of Omdurman, and Phœbus.

For twenty-four incurved varieties there was a keen rivalry between Mr. W. Dawes, gardener to Lord Trevor, Chirk; Mr. Goodacre, Elvaston, and Mr. J. Thornton, Bradford; three superb stands with well finished flowers. The class for twelve Japanese brought a strong competition between seven exhibitors. Mr. J. Collier, Conndon Court Gardens, near Coventry, late of Bradford, and the first hon. secretary to the society, won the first honours, with Mr. Midgley close on his heels and Messrs. Fairbairn & Son a good third.

The open vase class for twenty-four Japanese in eight vases is a very interesting one. Excellent flowers were staged by the winners, Messrs. Fairbairn & Son. The local classes for exhibitors within a radius of eight miles from the Town Hall were strongly contested.

Lord Masham's challenge cup, value 10 guineas, was captured by Mr. J. Thornton, Lambhall Nursery; City members' cup, given by the M.P.'s for the City of Bradford, to Mr. Midgley, Bankfield, with Mr. T. Bird as a close runner up, and Mr. W. Utling, gardener to A. A. Musgrave, Esq., a good third. Amateurs showed well. Messrs. T. Bird, J. Whittingham, J. B. Myers, D. Baker, and J. Grainger were the principal prizetakers in the class set apart for them.

A novel feature was a group of Chrysanthemum flowers arranged in vase or ornamental stand for decoration of dinner table, beauty of arrangement and effect to be the test of merit. Sir F. Ripley's gardener, Mr. J. H. Moore, had a beautiful display, which, however, did not come up to the ideal of the committee. Bouquets and floral decorations were well competed for, the Messrs. Brooke carrying all before them. Table plants, Primulas, and Roman Hyacinths were of good average quality, very effectively arranged on elevated boards in the centre of table.

Certificates of merit were awarded to the following excellent exhibits:—Mr. J. Forbes, Hawick, for a basketful of new Begonia Caledonia; Messrs. Wells & Co., for a stand of new Chrysanthemums; Mr. R. Eichel, for a group of Orchids and ornamental foliage plants; Mr. Thomas Horsman, for a choice selection of plants; and Mr. H. Dickinson for Grapes. The chairman of the committee, Mr. W. Horsman, must be congratulated for the excellent manner in which the show was managed.

Chester, November 13th and 14th.

THE eleventh annual show of fruit and Chrysanthemums under the auspices of the Chester Paxton Society was held in the Town Hall on the dates named, and was an unprecedented success. Lady Lettice Grosvenor opened the exhibition in presence of a large and fashionable gathering of ladies and gentlemen, and congratulated the committee on the outcome of their efforts. The entries exceeded those of any previous exhibition, while so great an advance was noticeable in the cultivation, particularly of the popular winter flower, that plants which several years back would have been awarded honours, this year were not deemed worthy of notice when compared with their gorgeous betters.

In the competition for the best group of Chrysanthemums, for the third time in succession Mr. Edwin Stubbs, gardener to Mrs. Hudson, Bache Hall, carried off first prize, a fresh exhibitor, Mr. T. Gibbons-Frost of Mollington, Banastree, being a good second; a veteran exhibitor, Mr. John Taylor, gardener to Mrs. Potts of Hoole Hall, was third; and Mr. Arthur Ellis, gardener at the County Asylum, fourth. The groups were so excellent that the judges declared they had never seen them equalled. The classes for specimen plants and cut blooms were all well competed for, the principal prizewinners being Mr. S. Garner, gardener to Mrs. McLaren, Curzon Park; Mr. Robt. Wakefield, Newton Hall; Mr. Thos. Weaver, Christleton Hall; Mr. F. W. Soames, and Mr. T. Case Morris.

There was a magnificent collection of fruit. In the gardeners' classes for home grown Apples the class for twenty-four distinct dishes brought out strong competition. The first honours went to a local grower, Edward Paul, Esq., of Barrow (gardener, Mr. H. Fletcher), a near neighbour in H. Lyle Smith, Esq., of Barrowmore Hall, (gardener, Mr. Morris), being awarded second honours, while Lord Combermere had this year to be content with the third prize.

For smaller growers the classes this year were made for twelve and six varieties. For the best twelve Mr. J. Saunderson of Bodnant Hall easily took first prize. Mrs. Townsend Ince was second, and the Hon. Mrs. Kenyon third. In the class for six dishes Mr. Simon Nowell of Whitby Heath was first, Captain Feilden, Mollington Hall, second, and Mr. R. R. Salmon of Rowton third. The entries for Pears were much above the average, and the quality was of an unusually high standard. For the best collection of six distinct dishes the Rev. L. Garnett of Christleton Rectory carried off the first honours, Lord Combermere being second, and Mr. H. Lyle Smyth third. The most attractive dish of Pears in the exhibition was the Pitmaston Duchess staged by Mr. J. Saunderson, who gained the first prize; Captain Feilden (gardener Mr. C. Worker) was second, while the Rev. L. Garnett was third. Other chief competitors in this section were Mrs. Ambrose Dixon, Christleton; Mr. J. W. Macfie, Rowton Hall; Mr. John Thompson of Netherleigh, and Mrs. Arthur Potts of Hoole Hall. The all-comers' section for the best collection of fifty distinct dishes of Apples brought out splendid collections grown by Mr. John Watkins, Withington, Hereford, and Messrs. Pewtress Bros., Tillington Nurseries, Hereford.

A most meritorious collection of fruit and flowers sent by his Grace the Duke of Westminster (gardener, Mr. Barnes) was awarded the society's gold medal. Excellent displays were also made by Messrs. Dicksons, Ltd., who staged flowering and foliage plants, Apples, Pears, &c.; Messrs. McHattie & Co., and Mr. F. W. Dutton, all of Chester. Mr. Robt. Wakefield acted as chairman of committee, with Mr. G. P. Miln as hon. secretary.

Winchester, November 13th and 14th.

As usual, the autumn exhibition was held in the Guildhall, and was an unqualified success. Never has a better show been held here than the present display. Cut blooms are always of high quality, the present being no exception. The competition is keen; plants, too, are well displayed, while fruit and vegetables leave little to be desired.

Groups of Chrysanthemums arranged for effect, as usual, were characterised by high culture. Mr. G. Street, gardener to Rev. Dr. Fearon, The College, Winchester, secured the premier award with a capital exhibit. Mr. R. Stone, gardener to the Ven. Archdeacon Haigh, The Close, Winchester, was a good second. Plants suitable for conservatory decoration were well shown. The plants are dwarf, untrained, and carry remarkably fine blooms. For six, any variety, Mr. G. Adams, gardener to Col. Dickens, Edge Hill, Winchester, was first prizewinner with an admirable set; Mr. H. Pittman, gardener to H. Sewell, Esq., Otterbourne, a good second; Mr. H. Gigg, gardener to the Rev. R. M. Moorsom, Holyrood, Winchester, third. In the class for six white flowered varieties there was a stiff competition. Mr. Adams won with Ma Perfection; Mr. E. Astridge, gardener to W. Barrow Simmonds, Esq., Abbots Barton, Winchester, was second; Mr. Gigg third. Mr. Adams followed up his previous success by annexing the premier award for six yellow flowered varieties with grand examples of C. H. Curtis, W. H. Lincoln, and Phœbus; Mr. Cousins, gardener to E. H. Buckland, Esq., Southgate House, Winchester, second; Mr. Pitmann third. In the single specimens Mr. A. Taylor, 3, Hillside Terrace, Bar End, Winchester, was unapproachable, winning first place for a fine plant of Golden Christine, for a standard (Niveus), and also for Phœbus in the amateurs' division.

For twenty-four incurved and the same number of Japanese, distinct, a handsome silver vase was offered with a substantial money prize. For this there were five competitors, making a bold display. Mr. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, was easily first with a handsome set of blooms. The incurved were large, solid and beautifully arranged. The varieties were Mrs. R. C. Kingston, Duchess of Fife, Madame Ferlat, Chrysanthème Bruant, Ialene, Mrs. H. J. Jones, Hanwell Glory, Le Macedon, Topaze Orientale, Duc d'Orleans, Ma Perfection, Miss V. Foster, Yvonne Desblanc, C. H. Curtis, Lord Wolseley, Golden Empress, Golden Queen of England, Violet Tomlin, Miss M. A. Haggas, Mrs. Coleman, Emile Nonin, Lucy Kendall, R. Petfield, and Princess of Wales. Japanese: Duke of York, Mrs. W. Mease, E. Molyneux, Lady Hanham, G. J. Warren, Mr. T. Carrington, Mrs. Coombes, Madame Carnot, Graphic, Mrs. J. Lewis, Phœbus, Mrs. Weeks, Sir H. Kitchenner, Miss A. Byron, Modesto, E. Towers, J. R. Upton, Mrs. Cursham, Simplicity, Edith Dashwood, Mr. C. Blick, Souvenir de Madame F. Rosette, Miss N. Pockett, and J. C. Schwabe. Mr. G. Hall, gardener to Lady Louisa Ashburton, Melchet Court, Romsey, a good second. Mr. J. Hughes, gardener to Messrs. A. Hart & Sons, Guildford, third.

In the class for twenty-four Japanese, Mr. J. Wasley, gardener to J. B. Taylor, Esq., Sherfield Manor, Basingstoke, had the best exhibit amongst five entries: Messrs. Street and Hall followed in the order here given. Mr. Neville won pride of place for twelve incurved with a stand of even sized, neatly finished blooms. Mr. A. J. Marsh, gardener to M. Hodgson, Esq., Morton House, Kingsworthy, was second, and Mr. C. Smith, gardener to W. J. Forwood, Esq., Hook, third.

For twelve blooms in four varieties, three of each, Mr. Neville once more secured the leading award with handsome examples, if small, of C. H. Curtis, Mrs. R. C. Kingston, Ialene, and Hanwell Glory. Mr. Hughes followed with larger blooms, but a trifle wanting in finish. Five competed in the class for twelve Japanese. The premier award was secured by Mr. L. Dawes, gardener to Mrs. Ogilvie, Rosecroft, Hambledon. Mr. W. Hunt, gardener to J. Moss, Esq., Fern Hill, Blackwater, second.

Numerous classes were provided for local growers, which were well filled; space, however, forbids details, a similar remark applying to the amateur and cottagers' exhibits. Mr. W. Hunt secured the leading award for Pompons, in a special class for this section, with a praiseworthy exhibit. Several classes were devoted to ladies, table decoration, epergnes, vases of Chrysanthemums, foliage, and berries, all of which were well filled with praiseworthy exhibits.

Hull, November 14th and 15th.

THE seventeenth annual show of the Hull and East Riding Chrysanthemum Society was held in the Artillery Barracks on the above dates. The competition was not so keen in some of the classes as we have seen in previous years. This was more noticeable in the group sections than in those for cut blooms; the groups, too, had not the exceptional excellence that has characterised them in the past, but these will probably improve again in succeeding years. There was only one miscellaneous group, and this, too, lacked elegance of arrangement and quality of plant culture as compared with those from Mr. Wilson of Swanland with which visitors to Hull have become accustomed.

In previous seasons we have had the pleasure of testifying to the exceptional excellence of the arrangements made by Messrs. Edward Harland and Jas. Dixon. In several respects the Hull executive teaches lessons to the managers of other societies. The most commendable point, however, is that of punctuality. Judging is advertised to commence at ten o'clock, and done or not done exhibitors have to go out at that moment, for Mr. Dixon passes the word for everyone to clear for the judges. This enables the judges to carry out their duties in a manner that is satisfactory to the society, the exhibitors, and to the judges themselves, with the natural result that an excellent feeling is maintained. Then, too, a complete prize list is printed and on sale in the show some half-hour or rather more after the judging is completed, and for this alone the society is to be congratulated. The quality of the cut blooms was generally excellent, and with increased competition the show would easily maintain its reputation as one of the foremost exhibitions in the kingdom.

Open Classes—Cut Blooms.

There were only two competitors in the class for twenty-four incurved, in not less than eighteen varieties, and not more than two blooms of any one variety. The position of honour was taken by Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, who staged in practically perfect form. The varieties were Duchess of Fife, C. H. Curtis, Geo. Haigh, Countess of Warwick, Ma Perfection, Topaze Orientale, Hanwell Glory, Ialene, Mrs. W. Harvey, Lady Isobel, Globe d'Or, Dorothy Foster, Ralph Hatton, Bonnie Dundee, Mrs. H. J. Jones, Mrs. G. Williams, C. B. Whitnall, Middle Lucie Faure, and Miss A. Hills. The premier incurved, C. H. Curtis, in the open division was in this stand. Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, was second with Ralph Hatton, Duchess of Fife, Countess of Warwick, Mrs. H. J. Jones, Miss A. Hills, Ma Perfection, Lord Rosebery, and Topaze Orientale as his best.

In the class for twenty-four Japanese, distinct, the first prize was awarded to Mr. W. Mease, who was the only exhibitor. The stand was heavy, of rich colour, and very fresh. The varieties were Mr. A. Barrett, Mrs. H. Weeks, Mrs. Barkley, Mons. Panckoucke, Mrs. Coombs, Snrpasse Amiral, Mrs. G. Carpenter, Miss D. Glide (closely resembles Mons. A. D. Chatin), Chatsworth, Florence Molyneux, Miss M. Douglas, Mermaid, Ella Curtis, Mrs. W. H. Lees, Lord Salisbury, Edith Dashwood, Mons. Chenon de Léché, Lady Hanham, Graphic, J. R. Upton, Madame Debrie, Mrs. W. Mease, H. Weeks, and Mr. T. Carrington. In the two preceding classes the total prize money offered was £40, and this fact makes it the more surprising that the competitions are not very much keener.

For six Japanese, any one variety, Mr. R. Walker was first with superb examples of Mons. Chenon de Léché; Mr. W. Mease second with Mrs. Barkley; and Mr. H. Willcock third with Miss Nellie Pockett. In the class for twelve large Anemones or Japanese Anemones, in not less than six varieties, Mr. T. B. Hanson won. Mr. W. Mason, gardener to Col. A. K. Dibb, Kirk Ella, was second; and Mr. F. Mason, gardener to Alex. Smith, Esq., Woodleigh, Hessle, third.

For twelve reflexed, in not less than six varieties, the prizewinners were Messrs. R. Walker, H. Willcock, and A. Drewery, in the order in which their names are here given. The first named staged Cullingfordi, Miss Alice Robertson, White Christine, Dorothy Gibson, Peach Christine, King of Crimson, and Pink Christine. Mr. J. W. Bearpark was first for a group of Pompons or Anemone Pompons, in not less than nine varieties. The flowers were of the true Pompon type. Mr. A. Drewery was second, and Mr. T. B. Hanson third.

For a group of singles, under similar rules to the preceding, Mr. C. J. Flower, gardener to R. Hodgson, Esq., Westwood, Beverley, was first with excellent flowers. Mr. T. B. Hanson was a creditable second; and Mr. R. J. Wolton, Newland Toft, Hull, third. Mr. V. Waterhouse was first for the most tasteful arrangement of cut miscellaneous flowers or Chrysanthemums with any foliage, Grasses, or Mosses. B. Mackrill, Esq., The Thwaite, Cottingham, was second; and Mr. H. Taylor, Newland, Hull, third. The exhibits were all very attractive.

Open Classes—Groups and Plants.

The Hull groups have an enviable reputation for general excellence. For a group of Chrysanthemums interspersed with foliage plants, arranged for effect in a space of 100 square feet, the first prize was a 20-guinea challenge vase and £10 in cash. Mr. G. C. Coates was first. The group comprised many excellent Chrysanthemums, but was somewhat weak in the foreground. Mr. V. Waterhouse was a creditable second. There were only two competitors.

For a circular group of miscellaneous plants, including Chrysanthemums, Mr. J. Foster, Cottingham Road, Newland, Hull, received the premier award for only a very moderate arrangement. In the class for a drawing-room mirror panel group of miscellaneous plants Mr. G. C. Coates, gardener to W. Wheatley, Esq., Anlaby Road, Hull, was first with an arrangement of Asparagus Sprengeri, Ferns, Chrysanthemums, Roman Hyacinths, Cattleyas, and other flowers. Mr. J. Foster was second, and Messrs. Green & Fitch, Case Street, Hull, third.

Mr. H. Thompson was first for three trained specimen Chrysanthemums, standards excluded, distinct, with handsomely trained examples. Mr. V. Waterhouse was an excellent second, and Mr. W. Mason third. For three standard trained specimens, distinct, Mr. H. Thompson was an easy first, Mr. W. Mason second, and Mr. V. Waterhouse third. These plants all represented excellent culture. The first prize for six bush-grown Chrysanthemums, not formally trained, went to Mr. R. Thirsk, Grove Hill Road, Beverley, who showed splendidly grown plants, even in size, of good form, and admirably flowered. Mr. T. B. Hanson, gardener to S. L. Haldane, Esq., Coleman Street, Hull, was second with five good plants and one that was very weak. Mr. W. Goodhill, Mayfield Street, Hull, was a fine third. Mr. R. Thirsk was first for six cut-backs with handsome plants. Mr. G. C. Coates, gardener to W. Wheatley, Esq., Anlaby Road, Hull, was second.

Lincolnshire and East Riding Classes.

A 5-guinea silver cup and £3 were offered as the first prize for eighteen incurved in not less than twelve varieties. Mr. T. Down was first for Madame Ferlat, Hanwell Glory, Topaze Orientale, C. H. Curtis, Lady Isobel, Baron Hirsch, Chrysanthème Bruant, Empress of India, John Lambert, Mrs. R. C. Kingston, Duchess of Fife, and Madame Darier. Mr. R. Walker was second, and Miss Ross, Elloughton Lodge, Brough, third. For twelve incurved the premier winner was Mr. R. Walker, who staged Hanwell Glory, Lord Alcester, Baron Hirsch, Madame Ferlat, Topaze Orientale, Miss Violet Tomlin, C. H. Curtis, John Salter, and Miss Violet Foster. Miss Ross was second.

In the class for eighteen Japanese, distinct, Mr. T. Down, gardener to H. S. Constable, Esq., Wassand, Hull, won the £3 and the 5-guinea cup with a most excellent stand. The flowers had refinement and colour. The varieties were Mrs. J. Lewis, Mrs. G. W. Palmer, Phœbus, Mr. T. Carrington, Miss Nellie Pockett, Lady Ridgway, Le Grand Dragon, Etoile de Lyon, International, R. Hooper Pearson, Mrs. Coombs, Madame Gustave Henry, Madame Chatin, Pride of Madford, Mrs. H. Weeks, Mons. Chenon de Léché, N.C.S. Jubilee, and Lady Hanham. Mr. H. Wilson, gardener to A. S. Wilson, Esq., Raywell, Cottingham, was an excellent second, and Mr. H. Thompson, gardener to C. J. Ringrose, Esq., Cottingham Grange, third.

For twelve Japanese, distinct, Mr. H. Thompson was first with Swanley Giant, Lady Hanham, Australie, Mons. Chenon de Léché, Simplicity, Mrs. Barkley, Mr. Hugh Crawford, Mary Molyneux, Mr. A. Tate, Mrs. J. Lewis, N.C.S. Jubilee, and Mrs. W. Mease, all in most creditable condition. Mr. R. Walker, gardener to Mrs. Stracey Clitherow, Hotham Hall, Brough, was second, and Mr. T. B. Hanson, gardener to S. L. Haldane, Esq., Coleman Street, Hull, third.

Mr. A. Drewery, gardener to Mrs. F. B. Moore, Harland Rise, Cottingham, secured the leading position for six bunches incurved, Mrs. Dixon, Mrs. George Glenney, and Mrs. Rundle. The flowers were of superb quality. Mr. V. Waterhouse, gardener to W. T. Owbridge, Esq., Cherry Garth, Cottingham, was second; and Mr. W. Higgins third.

Amateurs' Classes.

In the class for twelve incurved, six varieties, Mr. W. Grasby, Studley House, Plane Street, Hull, was first with a creditable stand; Mr. J. W. Bearpark, Great Thornton Street, Hull, was second; and Mr. J. E. Lott, Alexandra Road, Hull, third. The premier incurved bloom in the amateurs' section was in this stand; the variety was Baron Hirsch.

For twelve Japanese, nine varieties, Mr. J. E. Lott was first with Mrs. G. W. Palmer, Titania, Vivand Morel, Madame Gustave Henry, Lady Ridgway, Le Grand Dragon, Mr. T. Carrington, Chas. Davis, Mons. Ad. Chatin, Mons. Louis Remy, Mons. Chenon de Léché, and Mons. Panckoucke. Mr. W. Thompson, Wenlock Street, Hull, was second; and Mr. H. Coverdale, Hallgate, Cottingham, was third. Mr. W. Thompson was first for six reflexed, not less than three varieties, with splendid flowers; Mr. J. W. Bearpark was second. For six large or Japanese Anemones, in not less than three varieties, Mr. W. Thompson was first; Mr. J. W. Bearpark second, and Mr. H. Coverdale third.

Mr. J. W. Bearpark was first for six Pompons or Anemone Pompons, Mr. W. Thompson second, and Mr. H. Coverdale third. The amateurs' plant section comprises five classes. For six any varieties Mr. R. Thirsk was easily first with superb plants. Mr. J. Elliott, Eastgate, Beverley, was second, and Mr. W. H. Young, Somerscales Street, Hull, a poor third. Mr. R. Thirsk was first for three cut-backs, Mr. J. Elliott second, and Mr. W. H. Young third.

In the class for three plants any varieties Mr. R. Thirsk was easily first, Mr. J. Elliott second, and Mr. W. Higgins, Maple Street, Queen's Road, third, with three capitally trained specimens. For two trained specimens Mr. W. Higgins was first with rather flatly trained specimens carrying medium-sized flowers. Mr. R. Thirsk was second with freer trained and larger flowers. Mr. R. Thirsk was first for a one trained specimen beautifully flowered. Mr. W. Higgins was second with a flatter plant carrying more flowers. Mr. W. H. Young was third.

Ladies' Classes.

The chief class in this section is for a round table, 6 feet in diameter, completely laid out for dessert for six persons, Chrysanthemums only, with any kind of foliage or Grasses, for which 4 guineas and a piece of challenge plate value 10 guineas are offered as the first prize. The coveted position was won by Miss Pudsey, Crown Terrace, Anlaby Road, Hull. It was an artistic combination of reddish bronze Chrysanthemums and green foliage; the flowers painted on the cloth and the Ficus pinned to the edge of the cloth detracted from the effect of the table proper. Miss Ayre, The Cottage, Hessle, was a most artistic second. The arrangement was a harmony of Chrysanthemum Miss Mary Anderson and Grass, with Asparagus Sprengeri. It was rather cold for winter. Miss H. L. Leonard, Ivy House, Preston, Hull, was third; and Miss Mary G. Bean, Anlaby Road, Hull, fourth.

For a hand bouquet of Chrysanthemums and any kind of foliage Miss Mackrill was an easy first; Miss G. M. Browne, May Street, Beverley Road, Hull, second; and Mrs. Parkyn, Anlaby Road, Hull, third. Miss Annie Dorsey, Percy Street, Hull, was first for two dress sprays of Chrysanthemums and any foliage; Miss A. Mabel Ayre second; and Miss Hilda Pudsey, Anlaby Road, Hull, third.

In the class for an epergne of Chrysanthemums, Mrs. Chas. Judge, Brooklands, Hull, was first; Miss Mabel Fisher, Willerhy Hall, Hull, second; and Miss Hilda Pudsey third. The last class was for the most tasteful arrangement of cut miscellaneous flowers or Chrysanthemums, and any kind of foliage, Grasses, or berries. Miss A. Mabel Ayre was first, Mrs. H. L. Leonard second, and Miss Pudsey third.

Special Awards.

The challenge plate presented by the tradesmen of Hull was awarded to Mr. J. E. Lott. The premier Japanese in the open classes went to Mons. Chenon de Léché, shown by Mr. R. Walker, and the premier incurved for Charles H. Curtis to Mr. Higgs. The premier Japanese in the amateur section was Mons. Chenon de Léché, shown by Mr. R. Thirsk, and the premier incurved, Baron Hirsch, shown by Mr. J. E. Lott. The two National Chrysanthemum Society's certificates were awarded to Mr. Higgs for twenty-four incurved, and to Mr. G. C. Coates for a group of Chrysanthemums.

Non-Competitive Exhibits.

The trade does not support the Hull exhibitions as largely as might be expected, considering the numbers of people who attend the show on the two days on which it is open. Amongst the most important of these were boxes of Japanese Chrysanthemums from Messrs. W. Wells

and Co., Ltd., Earlswood Nurseries, Redhill. These included several new varieties, such as Matthew Smith, the Hon. W. F. D. Smith, W. R. Church, and C. J. Salter, with a few others. Messrs. Cutbush & Sons, Highgate, contributed a collection of miscellaneous plants, including well grown examples of various Heaths, retarded Lily of the Valley, Chrysanthemums, with baskets of Apple Monstrous Incomparable. The Hull Corporation sent from its Parks Department a superb group of plants, in which splendidly grown Chrysanthemums in association with Poilsettias, Cattleyas, Crotons, Palms and Ferns, were noted. Single Chrysanthemums were so skilfully placed as to add considerably to the attractiveness of the display. A few other stands were contributed by local nurserymen.

Liverpool, November 14th and 15th.

THE Liverpool Horticultural Society celebrated its majority on Wednesday last, and congratulations to Mr. T. Foster, the energetic chairman, Mr. Harold Sadler, the popular secretary, and the practical committee, were tendered. There was not a weak point to be seen in the show.

The great cut bloom class for twenty-four incurved and twenty-four Japanese carried with it a money prize and a handsome challenge cup, value 20 guineas, presented by R. P. Houston, Esq., The Lawn, Aigburgh, in lieu of the one he won outright last season. There were four competitors, and the same gentleman's gardener, Mr. J. Heaton, again secured for the first time this valuable prize, thus showing how successful a grower he is. The blooms, too, were of the best possible quality, Japanese especially so. The varieties were Australie, Secreteire Fierens, Mrs. C. H. Payne, Mons. Louis Remy, Madame Hoste, Graphic, Mrs. G. W. Palmer, Madame G. Henry, Australian Gold, Madame G. Debrie, Mons. Chenon de Léché, Miss Alice Byron, Master H. Tucker, Lady Ridgway, Miss Randerson, Chatsworth, Madame Carnot, Lord Ludlow, Mrs. H. Weeks, Mrs. Barkley, Edith Tabor, Miss Nellie Pockett, Phœbus, and Mrs. Mease. The incurved were Mrs. H. J. Jones, Madame Ferlat, General Symons, Lady Isobel, Chrysanthemiste Bruant, Ma Perfection, Perle Dauphinoise, Mrs. C. E. Egan, W. Tunnington, Ralph Hatton, Jno. Lambert, C. H. Curtis, Mdle. Lucie Faure, Hanwell Glory, Queen of England, Duchess of Fife, Mrs. Coleman, Mrs. Heale, Lucy Kendall, Lord Alcester, Miss V. Tomlin, J. Agate, Ialene, and Miss M. A. Haggas. The second prize was taken by Mr. W. Whittle, gardener to R. G. Allan, Esq., Rosemont, Aigburgh, and although the stand was a capital one in many respects, the flowers were wanting in weight as against the winning stand. The third prize must have been difficult to arrive at, and Mr. G. Haigh, gardener to Sir W. H. Tate, Bart., Highfield, Woolton, deserves the greatest of praise for a stand rich in many fine flowers. A good fourth was found in Mr. Neish, gardener to J. H. Ismay, Esq., Caldys Manor, Cheshire.

Three competed in the class for eighteen incurved, the blooms throughout being extra good. The winner, E. Ellis, Esq., River View, Heswall, had Duchess of Fife, Ma Perfection, Mrs. C. E. Egan, Ialene, Hanwell Glory, and Mdle. Lucie Faure in typical form. Mr. P. Green, gardener to Col. Thomas Gee, Greenhill, Allerton, was a good second, and Mr. Jakeman, gardener to Mrs. Heap, Blackmore, West Derby, a close third. For twelve Mr. C. W. Findlow, gardener to G. E. Moses, Esq., Dulce Domum, Higher Bebington, Cheshire, went ahead, and Mr. J. Young, gardener to F. G. Williamson, Esq., Otterspool House, Liverpool, followed. The smaller classes were well filled.

For eighteen Japanese Mr. Ellis was admirable, Henry Weeks, Lord Ludlow, Mons. Chenon de Léché, Phœbus, Ella Curtis, Nellie Pockett, and Mr. A. Barrett being heavy, rich, and of beautiful form. Mr. Jakeman was second and Mr. J. Young third. Mr. Findlow carried off first prize for twelve Japanese with fine flowers, Mr. Barber, gardener to Walter Holland, Esq., Carnatic Hall, Mossley Hill, being second. No more charming exhibit could have been wished than the twelve bunches of Pompons staged by Mr. Wharton, gardener to Jno. Findlay, Esq., Sefton Park, who also won for reflexed.

Mr. J. Bracegirdle, gardener to Alderman W. H. Watts, Elm Hall, Wavertree, had the distinction of winning the group classes with excellent flowers. Baskets were numerous and imposing, Mr. Wharton winning. Trained and untrained plants were capitally grown, the principal winners in the large number of classes being Mr. W. Wilson, gardener to H. Cunningham, Esq., Gorse Cop, Gatacre; Mr. Wharton, and Mr. F. Keightley, gardener to Mrs. Duncan, Grassendale. Orchids were superb, the winners being Mr. Finch, Mr. Bracegirdle, Mr. T. Wilson, gardener to O. H. Williams, Esq., Aigburgh, and Mr. Keightley.

Rarely has such splendid quality been seen in the Grape classes. Mr. Neild of Holmes Chapel won for Muscats; Mr. Wilson, Alicantes; any other black, Mr. T. Fergusson, gardener to Mrs. Patterson, Rock Ferry; Golden Queen, Mr. Skitt, gardener to H. A. Bright, Esq. Mr. Doe, gardener to the Earl of Derby, K.G., Knowsley Hall, Prescott, put up a perfect collection of fruit, and gained the first prize also for six dishes of Pears. Other fruits, Apples, and Pears were splendid and abundant.

The trade seemed to give of their best. Messrs. Ker & Sons, Aigburgh, staged a splendid group below the orchestra; Messrs. Dickson, Ltd., Chester, had a small but beautiful collection of Apples; Messrs. T. Davies & Co., Wavertree, one of the best miscellaneous groups that they ever exhibited; Messrs. I. House & Sons, Westbury-on-Trym, sent their noted Violets; Messrs. Rowlands, West Derby, fine Bouvardias; and the Edwardian ware was prominent.

Rugby, November 14th and 15th.

THIS society held its fourteenth annual show on the above dates as usual in the commodious Town Hall. There was a falling off in some of the classes, and one or two of the more notable Chrysanthemum growers were conspicuous by their absence.

In the open section Mr. H. Blakeway, gardener to P. A. Muntz, Esq., Dunsmore, Rugby, was the only exhibitor in the cut bloom class for twenty-four Japanese, with the following varieties—Ella Curtis, Mrs. Barkley, Madame Carnot, Mrs. Payne, Mons. Hoste, Mrs. Mease, Master H. Tricker, Vivand Morel, Charles Davis, Emily Towers, Ethel Addison, Madame Remy, Madame Rivoire, Mrs. Coombes, and Pride of Exmouth. For twelve blooms of Japs Mr. Blakeway was again the only exhibitor, with fine examples.

For a bouquet of Chrysanthemums arranged with natural foliage Mr. R. Fenley, gardener to the Rev. Dr. James, Head Master, Rugby Schol, was awarded the first prize, and was the only exhibitor. For a basket of cut blooms arranged for effect, Mr. R. Fenley secured the first, and Mr. A. M. Morrison, gardener to E. A. Scott, Esq., Rugby, the second prize. For a vase of six blooms of Japs Mr. Blakeway was first, and Mr. C. Aston in the third position; no second was awarded.

In the division open to all residing within a radius of three miles of Rugby post office, nurserymen excluded, Mr. A. M. Morrison was placed first with a group of Chrysanthemums arranged for effect; second, Mr. E. Andrews, Rugby. For four varieties of Chrysanthemum, any variety, Mr. Morrison was first with very good plants of Lady Hanham, Chevalier Domage, and Vivand Morel as the best; second, Mr. C. Andrews; third, Mr. Fenley. For twelve Japanese Mr. C. Aston was awarded the second prize, and Mr. F. G. S. Martin the third, no first being awarded. For a hand-basket of autumn foliage and berries Mr. H. Blakeway surpassed himself with a highly meritorious arrangement; the second prize to Mr. F. G. S. Martin with a pretty exhibit. Apples and Pears were fairly well shown. Vegetables were in some instances remarkably fine.

Solihull, November 14th and 15th.

THE annual show was again held in the Public Hall, and fully maintained the traditions of the society. There was a slight falling off in the number of groups of Chrysanthemum plants arranged for effect, but it was somewhat compensated for by the exhibits of Japanese blooms on long stalks in vases. Fruits and vegetables were well shown.

In the class just adverted to Mr. T. Davis, gardener to H. Prinsell, Esq., Solihull, won the coveted honour for twelve blooms of Japs in three varieties, arranged in two vases, with remarkably fine examples; the second prize to Mr. F. Neal, gardener to J. W. Lill, Esq., Solihull, for also an effective display arranged in three vases placed triangular-wise, so as to show every bloom distinctly. Mr. T. Warner, gardener to W. A. Upton, Esq., was placed third. Other cut blooms were also very good, and for twelve Japs, distinct, Mr. A. Young, gardener to A. Powell, Esq., Shirley, was awarded the "blue ribbon" with Madame Carnot, President Borel, Vivand Morel, Chas. Davis, Mons. Panckoucke, G. W. Palmer, Madame Gustave Henry, Australie, Mrs. J. Ritson, Miss Hilda Chamberlain, Lord Ludlow, and Elthorne Beauty. Mr. T. Davis won the second prize. For six Japs, distinct, Mr. W. E. Brown, gardener to W. S. Leitner, Esq., Solihull, secured the first prize with fine examples of Madame Gustave Henry, Lady Hanham, Modesto, Mrs. G. W. Palmer, Elthorne Beauty, and Hairy Wonder; the second was awarded to Mr. F. Neal, with good blooms, and the third to Mr. G. Milton, gardener to J. Gillott, Esq., Solihull—a very good class on the whole.

Mr. D. Baggs was the only successful exhibitor of twelve incurved varieties. For six incurved Chrysanthemums Mr. W. G. Brown led with fine examples. The Anemone section was fairly well shown, the successful winners being Messrs. D. Baggs, F. Neal, and J. Warner, gardener to Mrs. Hoskins, Solihull. For a group of Chrysanthemum plants not to exceed 30 feet square, Mr. J. Warner was the winner with a somewhat crowded arrangement of good flowers. Mr. D. Baggs, gardener to W. E. Perk, Esq., Solihull, was placed second. For a group not to exceed 20 square feet Mr. T. Warner was first with an artistic arrangement, this being the only exhibit. For a trained plant of Japanese Mr. F. Neal was the winner with a splendid example of Vivand Morel carrying fifty-two high coloured blooms; the second and third prizes going to Messrs. J. and T. Warner as in order named. For one incurved plant Mr. F. Neal produced a magnificent C. H. Curtis carrying nearly two dozen blooms. Messrs. F. Neal, T. Leeson, and J. Warner were the winners for very good examples of single-flowered varieties. For one Pompon Messrs. J. Warner, F. Neal, and T. Leeson, gardener to R. S. Chattock, Esq., Solihull, were the respective winners with excellent specimens.

Sutton Coldfield, November 14th and 15th.

THE fifteenth annual exhibition of Chrysanthemums, fruit, and vegetables, was held on the above dates in the Town Hall, and for quality the traditions of the society were well upheld. Mr. J. E. Pears, gardener to A. Thorpe, Esq., Manor Hill, was first for a bank of natural grown Chrysanthemums arranged in a semicircle 10 feet by 5 feet; Mr. A. Jenkins, gardener to A. W. Wills, Esq., Claregate, Wyld Green was second; and Mr. J. Ward, gardener to G. E. Lowe, Esq., third.

Cut blooms were exceedingly well shown, and for twelve Japanese, not less than six varieties, Mr. T. Amphlett, gardener to S. C. Emery, Esq., Wylde Green, commandeered the first honours; the second fell to Mr. A. Jenkins with also fine examples, and the third to Mr. C. Link, gardener to the Trustees of Oscott College, Erdington. For twelve incurved Mr. A. Jenkins was placed first with excellent examples of unnamed varieties; second, Mr. Amphlett, and third Mr. F. Jackson, gardener to A. Pilkington, Esq., Wylde Green. For six blooms, distinct, any variety, Mr. J. E. Pears and Mr. H. W. Frizzell were the respective winners. For three blooms, distinct, of any white Japanese, to be shown in vases with not less than 9 inches of stem, the first prize was secured by Mr. A. Jenkins, and the second by Mr. T. Amphlett. For three blooms of yellow Chrysanthemums Mr. J. Pears and Mr. A. Jenkins divided the honours. For six bunches of single flowered Chrysanthemums Mr. A. Jenkins was placed in the front with very bright and elegant examples; Mr. G. T. Grove, Wyndley, second; and third, Mr. R. T. Parker. For a basket of dwarf Chrysanthemums with ornamental foliage plants, arranged for effect, the first prize was given to Mr. J. E. Pears, and the second to Mr. A. Jenkins.

Palms and various plants, collections and single dishes of vegetables, were capitally shown, both by gentlemen's gardeners, amateurs, and cottagers, as also were Apples, Pears, and Tomatoes.

Tamworth, November 14th and 15th.

AN attractive exhibition was held in the Assembly Rooms on the above dates, but unfortunately some of the classes were not so well filled as usual. The attendance on the opening day was good, and gave promise of successful financial results. The secretary, Mr. J. P. Jackson, and management committee, with Messrs. Salt and Higginson at their head, have reason to be gratified at the result of their labours.

For a group of miscellaneous plants arranged in a semicircle 12 feet by 8 feet, Mr. C. Clarke proved an easy winner, his exhibit showing evidence of artistic taste and good finish. The same exhibitor was also first for eighteen Japanese Chrysanthemums, showing fresh flowers of medium size. Mr. Clarke was to the fore again with a group of Chrysanthemums, which was well arranged, and contained many fine flowers. For twelve Japanese Chrysanthemums Mr. E. Earp, gardener to Col. Webbe, proved the victor; and Mr. J. Cheaney, secured the coveted award for a collection of fruit, which contained good Grapes, Pears, and Apples. Miss C. Johnstone won for table decoration with a tasteful exhibit.

In the non-competitive classes several attractive collections of vegetables were staged. R. Cooper, Esq., Sheenstone, arranged an excellent exhibit of flowering plants, composed principally of that popular winter flowering Begonia, Gloire de Lorraine. Mr. W. Sydenham, the famous Viola grower, seems to have taken a new departure, as he staged a large and varied collection of Chrysanthemums, every flower of which had been cut from the open air. Some of the most attractive varieties were Queen of the Earlies, Frederick Pélé, Crimson Marie Masse, Jeanne Vuillermet, and Harvest Home.

York, November 14th, 15th and 16th.

THE York Chrysanthemum Show is held annually in the spacious Exhibition Buildings, and it has come to be regarded as one of the foremost in the kingdom. On the present occasion the display of cut blooms was most excellent, the generality of the Japanese having freshness with excellence of colour and average size. The incurved section was a little inclined to coarseness, but some particularly refined flowers were seen. Groups, on a slightly lower floor of the exhibition, made a most handsome display, and evidenced excellence of culture with skill in arrangement. The plants were too good as a whole to be packed away beneath the galleries, and might advantageously be brought into a more conspicuous position at future shows. The system of placing the name cards on the winning exhibits leaves room for improvement. Practically the whole of them were indistinctly written in pencil, and only in very rare instances were the addresses of the exhibitors appended. We would suggest to the committee that the full name and address of the exhibitor, with the gardener's (if any) name and initials, be distinctly written upon the cards in future, as this will add much to the interest of visitors, and greatly facilitate the work of the reporters. Apart from this the arrangements made by Mr. G. F. W. Oman and his assistants left little to be desired. Fruits and vegetables were numerous shown, but lack of space precludes the possibility of extended reference thereto.

Open Classes.

For a group of Chrysanthemums interspersed with foliage plants, occupying a space not exceeding 120 square feet, a piece of plate value 15 guineas is added to the premier prize. There were apparently only two exhibitors, of whom Mrs. Whittaker was placed first. The arrangement was a handsome one, but was rather top-heavy, and contained too many foliage plants. The Chrysanthemums employed were of good quality. Mr. G. Cottam, Cottingham, was placed second with a fairly creditable group that lacked finish in the foreground.

In the class for a 100 feet circular group with a central foliage plant and a margin of foliage plants, Mr. J. Pettinger, Harrogate, was an excellent first prizewinner; the blooms were of splendid quality, having

size, colour, and freshness. Mr. J. W. Fields, Acomb, was second, and Mr. G. Jarvis, gardener to Mrs. Whittaker, Hessle, third, both showing well.

Mr. W. Dickenson was first for four incurved on single stems with well flowered examples of Lord Wolseley, Prince Alfred, Mrs. G. Rundle, and Baron Hirsch. Mrs. Gutch was second with George Glenney, Mrs. G. Rundle, Mrs. Dixon, and Madame E. Roger. For one incurved Mrs. Gutch was an easy first with C. H. Curtis in splendid form; Mr. Wm. Dickenson was second. In the class for four Japanese, Mrs. Gutch was first with moderately good specimens of Mons. Bernard, Mdlle. Lacroix, Lady Hanham, and Phœbus; Mr. W. Dickenson was placed second.

For one Japanese Mrs. Gutch was first with Phœbus, and Mr. Wm. Dickenson a fair second with Col. W. B. Smith. Mr. W. Dickenson received the second prize for four Pompons, with only very moderate plants. Mr. Wm. Heppell was third. For one Pompon Mr. W. L. Appleton was first, Mr. W. Dickenson a good second, and Mr. W. Heppell third. For one single Mrs. Gutch was an easy first, Mr. J. Bellerby second, and Mr. W. Heppell third. For one Anemone flowered Mrs. Gutch was first; the name of the second prizewinner did not appear on the card.

The citizens' challenge prize value £20 is added to the premier award in the class for thirty-six incurved and Japanese, eighteen blooms of each, not less than twelve varieties of each. There were six entries, and the class was a very strong one. Mr. J. H. Goodacre, gardener to the Earl of Harrington, was first. His Japanese were rather small, but of good colour; the incurved were very handsome. The Japanese included Australie, Lady Hanham, Mrs. J. W. Clark, Edith Tabor, Mrs. H. Weeks, Mons. Chenon de Léché, Mr. T. Carrington, Phœbus, Mrs. Barkley, and Mrs. W. Mease. The incurved comprised Lady Isobel, C. H. Curtis, Miss Violet Foster, Mrs. H. J. Jones, James Agate, Ernest Cannell, Hanwell Glory, Madame Ferlat, Countess of Warwick, George Haigh, Lord Alcester, Robert Petfield, and Lord Wolseley. Mr. W. H. Hotham, gardener to Mrs. J. E. Wade, was second with Japanese, nearly equal to those of the winner, but rougher incurved. The best Japanese were Madame Carnot, Surpasse Amiral, N.C.S. Jubilee, Mrs. W. Mease, and Phœbus. The incurved included Globe d'Or, C. H. Curtis, Topaze Orientale, White Empress, Golden Empress, and Hanwell Glory. Mr. J. Coultas, gardener to Alderman Harding, was third, and Mr. J. P. Leadbetter, gardener to Arthur Wilson, Esq., Tranby Croft, Hull, fourth.

For eighteen incurved, in not less than twelve varieties, Mr. J. H. Goodacre was easily first with Lady Isobel, C. H. Curtis, Duchess of Fife, Mrs. R. C. Kingston, James Agate, Topaze Orientale, Miss Violet Foster, Golden Empress, Mrs. H. J. Jones, Hanwell Glory, Queen of England, Miss Violet Tomlin, Empress of India, George Haigh, and Emily Dale. Mr. G. Jarvis received the second prize, but several of the flowers were very rough.

Mr. J. H. Goodacre was again first for twelve incurved, distinct, with Mrs. H. J. Jones, Mrs. Nat. Molyneux, C. H. Curtis, Lady Isobel, Ernest Cannell, Hanwell Glory, Queen of England, Miss Violet Foster, Lord Alcester, Mrs. S. Coleman, James Agate, and Leonard Payne. Mr. W. H. Hotham was second with smaller, but, in several cases, very neat blooms. Mr. G. E. Thomas, gardener to the Marquis of Ripon, was third. For six incurved, distinct, the prizewinners were Messrs. G. H. Dobson, gardener to R. Lawson, Esq.; G. E. Thomas, and C. Grand, gardener to E. H. Anderton, Esq., in the order here given. There was nothing particularly meritorious in either of the stands. Mr. C. Grand was second for six incurved, one variety, with C. H. Curtis in poor form. There was no other competitor in the class.

In the class for eighteen Japanese, distinct, Mr. D. Williams, gardener to the Earl of Feversham, was an excellent first with Edith Tabor, Mrs. Coombes, Mrs. W. Mease, Graphic, Eva Knowles, Mrs. H. Weeks, Madame Carnot, Mrs. J. W. Barks, Mrs. C. H. Payne, Madame Gustave Henry, G. J. Warren, Vivian Morel, M. Louis Remy, Mary Molyneux, Le Grand Dragon, H. Weeks, Mrs. G. W. Palmer, and Mrs. E. Clarke. Mr. J. D. Hutchinson was a poor second, his flowers being very small. Mr. A. Shakellon, gardener to Captain Cecil Duncombe, was a most excellent third, and Mr. E. Cowling, gardener to J. M. Leonard, Esq., fourth.

For twelve Japanese, distinct, Mr. D. Williams was again first, showing an even bright stand, comprising Mrs. H. Weeks, Vivian Morel, Graphic, Edith Tabor, Mrs. C. Harman Payne, Mrs. E. W. Clark, G. J. Warren, Madame Gustave Henry, Mrs. W. Mease, Madame M. Ricoud, Chas. Davis, and Mrs. J. W. Barks. Mr. G. E. Thomas was a good second with Miss Nellie Pockett, Lady Hanham, Le Grand Dragon, Mrs. W. Mease, and Madame Gustave Henry as his best. Mr. J. C. McPherson, gardener to the Earl of Londeshorough, was third.

Mr. D. Williams was first for six Japanese, any white variety, with superb examples of Madame Gustave Henry. Mr. J. Cowling was second with Simplicity; and Mr. G. E. Thomas third with Miss Nellie Pockett. For six Japanese, any one variety other than white, Mr. D. Williams was first with brightly coloured flowers of Vivian Morel. Mr. G. Everard, gardener to Mrs. Gutch, was second with Lady Hanham; and Mr. J. D. Hutchinson third with the same variety. There were five exhibitors in this class. For six blooms of any yellow Japanese Mr. D. Williams was first with refined examples of Edith Tabor; Mr. J. D. McPherson second with Phœbus; and Mr. J. Dobson third with Oceana. For six blooms any golden yellow Japanese

Mr. J. D. Hutchinson was first with President Nonin, and Mr. D. Williams second with the same variety. In neither case were the flowers golden yellow.

Amateurs' and Gardeners' Classes.

The citizens' challenge prize, value £10, is added to the first prize in the class for eighteen distinct. Mr. J. Dobson was first with Japanese: *Australie*, *Graphic*, *Van den Heede*, *Mons. Panckoucke*, *Mr. T. Carington*, *Mrs. White Popham*, *Phœbus*, *Lady Byron*, *Oceana*, *Mrs. C. H. Payne*, *Modesto*, and *Mrs. W. Mease*. The incurved were *Duchess of Fife*, *C. H. Curtis*, *Madame Ferlat*, *Ernest Cannell*, *Lady Isobel*, and *Topaze Orientale*. Mr. G. H. Dobson, gardener to R. Lawson, Esq., was second, Mr. E. Everard third, and Mr. T. Douthwaite, gardener to Miss Barston, fourth. For six Japanese, distinct, Mr. J. Emms was first with *Mrs. H. Weeks*, *Edith Tabor*, *Lady Hanham*, *Viviand Morel*, *N.C.S. Jubilee*, and *G. C. Schwabe*. No name appeared on the card of the second prizewinner. Mr. H. Halliwell was third. In the class for six Anemone-flowered Chrysanthemums Mr. H. Halliwell was easily first; Mr. W. Heppell was second with wretched flowers.

In the class for a group of Chrysanthemums, arranged for effect in a space not exceeding 50 square feet, Mr. J. Emms, Accomb, was a splendid first; Mr. W. Douglas second, and Mr. H. Halliwell third. For three plants in pots Mr. Chas. Dickenson was first with *Globe d'Or*, *Lady Hanham*, and *C. H. Curtis*; Mr. W. L. Appleton was second, and Mr. J. W. Clarke third. Mr. W. Heppell was easily first for two plants with well grown examples; Mr. W. Douglas was second, and Mr. J. Hume third. For one plant Messrs. Chas. Dickenson, J. Hume, and W. Todd secured the prizes in the order in which the names are here given.

For twelve blooms, six Japanese and six incurved, Mr. H. Parkinson was first with Japanese *Madame Carnot*, *Mons. Chenon de Léché*, *Viviand Morel*, *Lady Hanham*, *Lady Ridgway*, and *Edith Tabor*, and incurved *Madame Ferlat*, *Baron Hirsch*, *Globe d'Or*, *J. Lambert*, *Mr. Bunn*, and *Ma Perfection*. Mr. J. W. Clarke was a poor second. In the class for six incurved, distinct, Mr. H. Parkinson was first, Mr. W. Douglas second (the stand contained some Japanese incurved), and Mr. J. W. Clarke third.

Special Classes.

In the class for a dessert table completely laid for six persons, Miss Smailes was first for a heavy combination of white Chrysanthemums, Ferns, Crotons, and Asparagus. Miss Whitehead was second with an arrangement of yellow Chrysanthemums, Miss A. Baines third with a somewhat similar arrangement, and Miss Ethel Salmon fourth.

Mr. G. Cottam was first for a decorated drawing-room mirror. The plants included Chrysanthemums, Cattleyas, and Salvias, with Crotons, Aralias, Ferns, Palms, and Asparagus. Messrs. R. Simpson & Son were second, and Mrs. Whittaker third.

Non-competitive Exhibit.

The finest non-competitive exhibit in the show was that from Messrs. Sutton & Sons, Reading, who contributed a table of Primulas, Carnations, and Cyclamens, and a second table of Potatoes. The most prominent Cyclamens were *Vulcan*, *Salmon Queen*, and *White Butterfly*, all of which were flowering profusely. The Primulas were dwarf, stocky little plants from seeds sown on June 15th, and each one carried excellent flowers; both single and double varieties were well represented. The Carnations represented Sutton's Perpetual Early Flowering, and were from seeds sown in February of this year. The plants were flowering freely, and the colours were very varied. The Potatoes, however, made the finest display. The varieties comprised Sutton's Seedling, The Sutton Flourball, Windsor Castle, Ninetyfold, Epicure, Supreme, Abundance, Nonesuch, Reliance, Ideal, Ringleader, May Queen, Harbinger, Early Regent, Reading Russet, Ne Plus Ultra, Perfection, Triumph, Satisfaction, Magnum Bonum, Centenary, Reading Ruby, Reading Hero, and Sutton's Matchless, each of which was represented by clean, even tubers of ideal size and shape.

Messrs. Cutbush & Sons sent from Highgate a table of various plants, such as *Lilium Harrisii*, *Lily of the Valley*, and *Spiraea japonica* from retarded bulbs, crowns, and clumps respectively; *Solanum Tanksianum*, *Otaheite Oranges*, *Begonia Gloire de Lorraine*, Carnations *Mrs. T. W. Lawson* and *Countess of Warwick*, with several *Ericas*, Ferns, Palms, and *Skimmia japonica*, beautifully berried (it is shown in flower in fig. 124), with baskets of *Apple Monstrous Incomparable*. Messrs. W. Wells & Co., Ltd., Earlswood, Surrey, sent Japanese Chrysanthemums the Hon. W. F. D. Smith, Lord Salisbury, Frank Hannaford, W. R. Church, Janet, Lady Clarke, C. J. Salter, and Mrs. Barkley. Messrs. G. Bunyard & Co., Maidstone, contributed fruit in their well-known excellent style; as usual all the leading varieties were included. Mr. Walshaw, Scarborough, staged foliage and flowering plants in good variety.

Edinburgh, November 15th, 16th, and 17th.

THE Waverley Market was the site selected for the annual autumn exhibition, which was, perhaps, the best of many fine shows held here.

The entries may not have been quite so numerous as in the past, but the quality of the cut blooms was certainly of a higher tone. "Quite equal to the best seen at the Royal Aquarium," was a frequent remark heard at the show. No fewer than thirty-eight classes were provided in this section, therefore the effect may easily be realised.

The most important class is that for twenty varieties of Japanese, three blooms of each, staged on stems in vases with Chrysanthemum foliage. The City of Edinburgh prize, value £20, in addition to a cash prize of £15, is the reward of the leading exhibitor, and who this year was found in Mr. T. Lunt, gardener to Captain Stirling, Keir, as was the case the last two years also. The blooms were large, fresh, and well staged, and contained the following varieties:—*Lady Ridgway*, *Pride of Madford*, *Mrs. W. Popham*, *Madame M. Ricoud*, *Madeline Davis*, *Edith Tabor*, *Mr. J. Bryant*, rich in colour; *Madame A. Rosseau*, *Oceana*, *Mrs. Weeks*, of huge size; *Mrs. A. H. Hall*, *James Bidentope*, deeply coloured; *Mrs. J. Lewis*, of great depth; *M. Hoste*, *Mrs. Barkley*, *M. Chenon de Léché*, *Mrs. C. H. Payne*, *Australie*, *R. H. Pearson*, and *H. Weeks*. Mr. J. Beisart, Castle Huntly, was a good second; Mr. Nicoll, Forgandenny, was an exceedingly close third, staging many fine blooms.

For twelve varieties, three of each, also staged in vases, seven competed for the Scottish cup, which was the leading attraction. Mr. Nicoll was this time successful in securing the trophy with large, clean, fresh examples of *Australie*, *M. Von André*, *M. Gustave Henry*, *H. Weeks*, *Emily Towers*, *Simplicity*, *Pride of Madford*, *Mrs. Barkley*, *Oceana*, *Mutual*

Friend, *Miss A. Byron*, and *Lady Ridgway*. Mr. Lunt was a close second. Mr. J. H. Cumming, Grantully Castle, was third. For twenty-four blooms, any varieties, arranged in four vases, Mr. D. Kidd, Carberry Towers, Musselburgh, won the foremost place; Mr. Lunt second, and Mr. Whannell, Gilmerton, third.

Sixteen competed in the class for two vases of six each, Japanese blooms. Mr. R. Cossar, Eskgrove, Inveresk, won somewhat easily with handsome blooms of well-known varieties; Mr. R. Bruce, Seafield, second; Mr. J. Macgregor, Clifton Park, Kelso, third. For one vase of six blooms of any one variety Mr. W. Moir, Rosehaugh, defeated his nine opponents with grand specimens of *Mrs. J. Lewis*. Mr. Corse followed with *Edith Tabor* in good order, Mr. Armstrong bringing up the rear with *Viviand Morel*.

Specified varieties, six blooms of each, in vases, caused keen competition and a magnificent display. Charles Davis was represented by seven lots. Mr. A. McMillan, Douglas Castle, was first with deeply coloured flowers; Mr. G. Shotton, Swarland Hall, Northumberland, was second; and Mr. W. Armstrong third. Mrs. Ritson was represented many times, Mr. Shotton securing the premier award; Messrs. E. Buchanan and Bird secured the remaining prizes. The last named won with *Mutual Friend*, a grand exhibit. Mr. Moir second; Mr



FIG. 124.—SKIMMIA JAPONICA.

G. Scott, Liberton, third. Mr. Shotton was again successful with Lady Hanham; Messrs. Armstrong and Lamont second and third respectively. Mons. Chenon de Léché was grandly staged by many, but especially by Mr. Lunt and Mr. Whannell, who secured the prizes in the order here given. No less than twelve competed in the class set apart for Madame Gustave Henry; Mr. Redpath, King's Marshall, Peebles, winning with even, full sized blooms. Messrs. Bird, G. Chaplin, and Buchanan won the three prizes offered for the best display of Miss Nellie Pockett. For one vase of single flowered varieties Mr. Cook won with Mary Anderson in capital condition, Mr. McMillan following with a vase of mixed varieties.

Blooms staged on boards in the orthodox manner were numerous, but it could not be said they were nearly so attractive as those in vases. For thirty-six Japanese there were five competitors, which produced a long array of handsome blooms. Mr. T. Lunt followed up his previous success by annexing the premier award with good blooms of sorts usually met with in such a class. Mr. R. Kenyon, Monkams, Essex, was a good second, and Mr. Nicoll third. In the class for twelve Japanese in four varieties Mr. Moir won with E. Tabor, Mrs. J. Lewis, Lady Ridgway, Soleil d'Octobre; Mr. J. Cumming was second. Mr. J. Cameron, Byethorne, won for twelve Japanese, distinct, with a good exhibit. Mr. T. Lunt, with Lady Ridgway, won the first place for six of any one variety; Mr. Lundy, with H. Weeks, second.

Incurved varieties are, as a rule, only moderately staged here, the present being no exception to the rule. Mr. Shotton staged the best stands in both twenty-four and twelve varieties, small, neatly finished examples; Mr. A. Cameron, Binrock, Dundee, second. For six, any one variety, Mr. Boucher won with fairly good J. Agate. Annually the society's silver and bronze medals are offered for the best new Chrysanthemum not in commerce. Both were won by Mr. W. Wells, Earlswood, Surrey, for W. R. Church and Mabel Morgan. The premier bloom of the show was a magnificent example of Scottish Chief, two shades of yellow, in Mr. J. Beisant's second prize vase class.

Plants were only moderate. For six Mr. W. Pulman, Holywood, won with extra large, moderately flowered examples of useful varieties; Mr. D. Cavannagh, St. Edwards, Murrayfield, second. For four, Mr. Cavannagh secured the leading award. Mr. W. Lamont won for six plants in 6-inch pots with useful decorative subjects. Single flowered varieties were admirably represented, Mr. Pulman winning with a grand example of Mary Anderson. Fruit and vegetables were numerous and good. The "non-competitive" exhibits added much to the attractiveness of the show. Foremost was that from Mr. John Downie, Princes Street, Edinburgh, who had a remarkably fine exhibit of floral work. Mr. Thomas Fortune, Edinburgh, had an exhibit of a similar character, but less extensive. Messrs. R. B. Laird & Sons, Edinburgh, had a charming collection of Conifers. Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, was well represented with an artistically arranged stand of blooms mainly composed of new varieties. Messrs. Dobbie & Co., Rothesay, were represented by decorative sorts of Chrysanthemums in huge clusters. Mr. Wells, Earlswood, had new varieties for which he is famed. Messrs. Isaac House & Son, Westbury-on-Trym, had one of their usual Violet displays.

Bolton, November 16th and 17th.

AMONGST the busiest of our Lancashire manufacturing towns, Bolton can lay claim to a charming Town Hall, also to many citizens who possess capital, and who are not afraid to spend it in the interests and delightful pursuit of horticulture, with the result that amidst all the smoky surroundings and unfavourable climatic influences the local exhibits stand very high indeed. The arrangement this year commended itself to every visitor, the tables being entirely round the sides, and the groups occupying the centre of the floor space of the hall.

Groups were of charming quality, and for one arranged for effect there was a light and elegant arrangement from Mr. J. Wainwright, gardener to E. T. Crook, Esq., Cleveland, Bolton, rich in every detail, and a credit indeed. The silver cup presented by the president, J. W. Makant, Esq., went to this class. Mr. H. Shone, gardener to J. W. Makant, Esq., Gilnow Lodge, Bolton, had splendid quality, and had the arrangement been a trifle lighter he must have scored. The best of work was also noticeable in a choice arrangement from Mr. Jones, gardener to Mrs. Shaw, Wellesley House, for third position. For a group of Chrysanthemum plants, arranged with Palms and Ferns, much improvement might be made if less crowding was resorted to. They were bright and a smart contrast, the first and challenge cup, given by J. Hargreaves, Esq., going to Mr. J. Horrocks, gardener to W. H. Lever, Esq., Hillside, Newton; Mr. H. Shone being a grand second; and Mr. J. Abbott, gardener to J. Musgrave, Esq., Knowsley Grange, a tasteful third. The half-circular groups with mirrors is a class that ought to have every encouragement, as it brings out ideas, and a full sized group is the result. Mr. G. Lawson, gardener to J. Heywood, Esq., The Pike, was first; Mr. Abbott following.

Cut blooms were as fine as anything seen this year, indeed the large cup class, value 20 guineas, for eighteen incurved and eighteen Japanese staged by Mr. Crooks, gardener to the Dowager Lady Hindlip, Droitwich, and won outright, were marvels of build, colour, and arrangement. The following were the varieties—Japanese: Madame

Carnot, Mons. Chenon de Léché, Mons. Louis Remy, Australie, Mrs. Mease, Vivand Morel, G. J. Warren, Edwin Molyneux, Mrs. Weeks, Gustave Henry, Le Grand Dragon, S. A. Lane, Mrs. G. W. Palmer, Mrs. Coombs, Phœbus, Mrs. Barkley, Mons. Panckoucke, and Mrs. A. Barrett. Incurved: Duchess of Fife, Violet Foster, King of the Yellows, C. H. Curtis, Mdle. Lucie Faure, Bonnie Dundee, Nellie S. Threlfell, Hanwell Glory, Lord Alcester, C. B. Whitnall, Queen of England, Golden Empress, Madame Ferlat, Louise Giles, Lord Rosebery, General Symonds, Mrs. H. J. Jones, and Topaze Orientale. Mr. J. Kirkman, gardener to J. Stanning, Esq., Leyland, came second, and Mr. T. Whittle, gardener to R. G. Allen, Esq., Rosemont, Aigburth, third.

In the class for twenty-four distinct, the valuable silver cup was won for the second time by Mr. Whittle, the blooms being very excellent throughout, and the varieties as follows—Japanese: Australie, C. Davis, Mrs. Y. A. Compton, Mr. J. Upton, Madame Carnot, Sir H. Kitchener, Mrs. Barkley, Le Grand Dragon, Miss Pockett, Madame Gustave Henry, M. Louis Remy, and Graphic. Incurved: Mr. Foster, Ma Perfection, Queen of England, Duchess of Fife, Mrs. H. J. Jones, W. Tinnington, Lady Isobel, C. H. Curtis, John Lambert, Mrs. Egan, Mdle. Lucie Faure, and A. Salter. Mr. Crooks followed, Japanese figuring well, but incurved were not so good. Mr. Kirkman was placed a good third. The vase classes were superb, every bloom of which was fit to adorn an exhibition board. For twelve Messrs. Crooks, Kirkman, and Whittle were the winners.

Harrison's Vegetable and Farm Root Show.

MESSRS. Harrison & Sons held their annual show of farm roots and vegetables on Wednesday and Thursday, November 14th and 15th, at their warehouse in the Welford Road. The farm roots were unusually fine, especially the Nailstone Green-top Swedes and Harrison's Defiance Purple-top. Mangolds also were a very good crop. Special mention should be made of those from the Leicester Corporation Sewage Farm (under the management of Mr. Thurston), consisting of Normanton Prizewinner, Long Red Mangolds, also Defiance Swede and Green Kohl-rabi. Mr. Williams, of Bird's Nest Farm, sent some very fine Nailstone Swedes, as did also Mr. J. Abel, of Tooley Park, Hinckley, and Miss Taylor, Endsley Grange. Sir A. Fludger, Ayston Hall, sent fine Improved Green Barrel Turnips, and Mr. J. Oldacre, of Cestersover, large and beautifully shaped Yellow Globe Mangold; some handsome specimens of them also came from the County Lunatic Asylum, grown by Mr. F. Sansome, the head gardener, as also were Giant Long Reds.

The vegetables were wonderfully good and very interesting. Harrison's Selected Intermediate Carrots, also their Early Market Carrot. Autumn Giant Cauliflower well merited the prefix, being wonderfully large, and of excellent quality. Improved Drumhead Savoy were very large and good, also Leicester Hero Leeks, Onions, and of such varieties of Celery as Harrison's Leicester Red and Early Rose. Beetroots were of fine quality. Potatoes were a feature, Up-to-Date, Windsor Castle, and Satisfaction being of the desirable medium size, and models in shape.

Potatoes, kidney, any colour, twelve tubers. First prize to Mr. W. Taylor, South Collingham, with Up-to-Date; second Mr. James Hudson, and third Mr. J. Pell, both of Mostyn Street, Leicester, with Up-to-Date. For round or oval, any colour, first Mr. Fred Lockton, Thurlaston, with a superb dish of Satisfaction; second Mr. Johnes Hudson with the same variety, and third to Mr. Sansome, head gardener at the County Lunatic Asylum, for Windsor Castle of medium size and perfect shape. Onions were largely shown. For twelve bulbs of Globe of any variety, Mr. John Hudson was the chief winner; the second prize fell to Mr. J. Pell, and the third to Mr. Harry Taylor, Dyers Land, Belgrave Road. For twelve bulbs of flat-shaped, any variety, Mr. J. Hudson, Mr. J. Pell, and Mr. G. H. Copp, gardener to E. S. Earle Drax, Esq., Holnest Park, Sherborne, Dorset, were the winners as in the order named.

Brussels Sprouts were finely shown, the prizetakers being respectively Mr. W. Freer, Barwell, and Mr. Joseph Bradshaw, Birdstall. For three heads of Autumn Giant Cauliflower, Mr. F. Sansome led with very fine specimens, and Mr. J. Hudson second. Savoy, Improved Drumhead, Mr. F. Sansome was again to the fore, and Mr. J. Hudson a close second. For six heads of Leicester Red Celery the first prize was annexed by Mr. H. Copp, and the second by Mr. J. Pell. For Early Rose Messrs. J. Hudson and J. Pell won the first and second prizes, the third being awarded to Mr. W. Bann, Hampden Street, all with fine and solid stuff.

Carrots were exceedingly well shown, and for six Harrison's Early Market Messrs. W. Freer and J. Hudson were the winners. For six Selected Intermediate the first prize was awarded to Mr. Henry Crocker, South Collingham, for handsome and bright coloured specimens; the second prize fell to Mr. Jarvis Nicholson, South Collingham. Parsnips were fairly good, the winners being Mr. A. Dexter, Rose Walk, and Mr. James Dexter, both of Leicester. Leeks were very good, and the winners Mr. E. Jackson, Junction Road, third, Mr. G. H. Copp second, Mr. H. Taylor first. Beetroot, these were well shown, the first prize going to Mr. Owen Hartshorne, Thurmaston, and the second to Mr. J. Pell.



Fruit Forcing.

Melons.—The Melon season is over in most places, but well ripened fruits are good in quality even in December. The latest plants have the fruits well netted, and will only need sufficient water or liquid manure to maintain a healthy condition of the foliage. The latter must be discontinued directly the fruit gives indications of ripening, also the watering and atmospheric moisture be lessened. Where the plants are not so advanced damping will be needed in the morning and afternoon, putting on a small amount of air in the early part of the day to insure the dissipation of moisture that may have accumulated or been condensed, and induce evaporation from the foliage. Maintain the night temperature at 60° to 65°, and 70° to 75° by day artificially, advancing as much as can be had from sun heat after the middle of the day. Plants ripening their fruit should have ventilation constantly, a temperature of 70° to 75°, with as much sun heat as can be had by husbanding it, but not closing the house, withholding water, as before stated, from the roots and atmosphere.

Peaches and Nectarines.—*Earliest House.*—To have ripe fruit in April or early in May a start should be made at the beginning of next month, the very early varieties, Alexander and Waterloo, giving ripe fruit about three weeks earlier than Early Louise, and a month or more before Stirling Castle and Royal George Peaches. In Nectarines Cardinal is a considerable time in advance of Early Rivers and Lord Napier in ripening its fruit, and for early supplies is desirable for association with Alexander and Waterloo Peaches. The trees having been at rest some time, and previously forced, will start promptly, but those not before started early will not respond so quickly, therefore the house should be kept close, but admitting air freely above 50°, employing fire heat only to prevent the temperature falling below 35°. The more slowly the trees are excited the stronger will be the blossoms. The outside border must be protected so as to exclude frost, for the roots cannot absorb nourishment from the soil when it is frozen. A thorough soaking of water should be given to the inside border, and if the trees are weak a soaking of liquid manure, not too strong, will tend to a more vigorous break and development of the blossom. Sprinkle the trees in the morning and afternoon of bright days, but do not keep the trees dripping with moisture, especially at night and in dull weather, for this has a weakening tendency on the floral parts, tending to encourage wood rather than blossom development.

Succession Houses.—All the leaves are off except in the latest house, where in the case of young trees they still hang somewhat unduly, probably from the vigour and comparatively dull and wet weather, also absence of frost, but they should not be forcibly removed. When, however, they come easily off by brushing with the hand or a light broom the process may be assisted, and when they are all off unfasten the trees from the trellis and prune them. Syringe the house and trees with water at a temperature of 140°, then cleanse the house thoroughly, and if needed paint the woodwork, ironwork, and the trellis. Wash the trees with petroleum and soft soap, 2 ozs. to a gallon of water, and afterwards dress them with an approved insecticide, but do not dislocate the buds. Tie the trees to the trellis, leaving room for the branches to swell. Remove the loose surface soil and supply fresh, giving a top-dressing of some approved fertiliser. Supply water to the inside borders so as to keep them thoroughly moistened down to the drainage. Keep the atmosphere of the houses as cool as possible.

Lifting and Root-pruning Trees.—Any lifting, root-pruning, or other root requirements of the trees should be attended to without delay; but it is not safe to interfere with too vigorous trees until the leaves are all down, or nearly so, a few soft lateral growths being of no consequence, as they will have to be removed. The introduction of fresh trees should be performed at once, the planting being proceeded with as soon as the leaves are all off, or nearly so. Trees for houses are best if trained for two or three years to walls or under glass, those of five or more years moving safely if prepared for lifting by digging round them, so as to cause the production of fibres; a year previously. Such trees can be lifted with abundance of roots, and being carefully planted, they force readily the first season, and the results are satisfactory provided they are not brought on too rapidly, and a moderate crop is taken. It is always preferable to select these trees, as young ones do not fruit much the first two or three years.

In late houses the lifting and root-pruning of the trees should be taken in hand when the leaves are falling, having no regard to sappy lateral growths, as these will hold their leaves a considerable time longer than the matured wood, and though they may suffer from the check consequent on lifting, it is immaterial, as they will be cut away at the winter pruning, even accelerating root activity by the greenness of their parts while they remain. During the operation the house must be kept rather close, the trees lightly syringed if the weather be bright,

and the roots as little exposed as possible. When the operation is completed and the trees quite leafless, except the laterals, ventilate freely in all weathers. If the trees do not require lifting, and the wood is not quite ripe, it will be advisable to keep the house rather close by day, when there is sun heat, and to throw it open at night, which will soon harden the wood, especially if the growth be thin, so as to allow of light and air having free access. If the wood be at all crowded it should be thinned. There must not be any deficiency of moisture at the roots, as they will not develop the buds properly, falling when they should be expanding in the spring.

Cucumbers.—Plants that have been in bearing some time can be invigorated by a top-dressing of turfy loam, to which has been added about a fifth of thoroughly decayed manure or sweetened horse droppings, and about a tenth of "nuts" charcoal. A sprinkling of superphosphate on the surface will promote root formation and sturdy growth, supplementing with an occasional sprinkling of soot. Afford copious supplies of water, but let the soil be getting dry before any is given, then supply enough to moisten the bed through, using it at the same temperature as the house. Thin the old growths and lay in young, by which means the plants will continue bearing for some time longer. The autumn fruiters are now in full crop; these must not be overburdened, therefore remove fruit as soon as it attains a fair size, and all deformed fruit when observed. Examine the plants at least once a week for the removal of bad leaves, stopping or cutting away surplus growths, keeping the foliage fairly thin, yet an even spread on the trellis.

Winter fruiters should be allowed to become well extended over the trellis before pinching them for the production of fruit, training the growths evenly, and not more closely than to allow of the foliage being exposed to light. Stop after that at a few joints of growth or one or two joints beyond the show of fruit, but if the plants are weak allow more extension, and crop lightly at first. Remove most male flowers, and do not allow tendrils, but remove them as fast as they appear. Keep the beds replenished with soil, adding fresh and warmed as often as the roots appear at the sides of the ridges or hillocks.

Maintain a night temperature of 70°, 5° or 10° less in severe weather, 70° to 75° by day artificially, advancing to 80° and 90° or more with sun heat. Admit a little air at the top of the house whenever the weather is favourable, affording it, however, without lowering the temperature. Judicious ventilation, nevertheless, is highly beneficial in carrying off accumulated moisture and giving solidity to the growths, enabling the plants to tide over the trying ordeal of prolonged severe weather, when plants with their textured leaves often succumb. The syringe will only be necessary for damping paths and walls in the morning and afternoon in bright weather, which will give rise to the needful moisture, especially when the troughs for evaporation are charged with liquid manure or water. On bright afternoons a light bedewing of the plants overhead will be beneficial, but care must be taken to practise it early and not make the foliage tender by its too frequent recurrence. All water used must be of the same temperature as the house or bed, whether employed for damping, watering, or liquid manure applied to the roots.

THE BEE-KEEPER.

Bee-keeping for Beginners.

AUTUMN and spring are the best seasons for commencing bee-keeping, and those who have not already made a start might now with advantage wait until spring. Severe weather may be expected at any time, and if the bees are not well provided with sealed stores, they may, in the hands of a beginner, succumb before spring. There are doubtless many readers of the *Journal of Horticulture* who have one or more stocks of bees which may, or may not, be in the modern frame hive. If in a straw skep preparations can be made at this season by making a frame hive for the reception of the swarm which may be expected next spring. If the bees are already in a movable frame hive then others may be prepared during the long winter evenings.

In the first place it is advisable to select the most suitable hive for the particular district in which the bee-keeper may be placed, and whether run honey or sections of honey in the comb is desired, or both. We prefer a hive holding not less than ten, or more than twelve, standard frames. Hives of this description are easily handled, and are excellent for either comb or run honey. Strong colonies in hives of this description invariably give the best results.

Whatever hive is selected, it is advisable to have all of the same dimensions, and the frames being also of one size they will be interchangeable from one hive to the others. If run honey is preferred crates of shallow frames may be used, or full-sized frames can be utilised from other colonies to strengthen those that are weak. This is called the doubling system, and by working on these lines a surplus

may often be obtained when the season is short, owing to inclement weather and other causes, which it would be impossible to obtain from any other system.

Useful hives can be made from packing cases and similar boxes, which may be obtained from shopkeepers at the cost of a few pence. Having a pattern hive to work from no mistake will be made in the dimensions. The floor board should be movable. This is a great advantage in removing the *débris* which will accumulate in the winter, also if the floor board should become damp from any cause. It is important that the roof be waterproof; thin zinc strained over the wood answers the purpose admirably.—AN ENGLISH BEE-KEEPER.



All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Roses for an East Wall (Oxford).—The following climbing varieties would be the most suitable for your purpose:—Ranunculiflora, white flushed pink, an evergreen, therefore especially useful in winter; William Allen Richardson, apricot; Gloire de Dijon, too well known to need description; Longworth Rambler, bright red, continuous bloomer; Aimee Vibert, a pure white, free autumn flowering variety; Perle des Jardins, golden yellow. Perhaps the best stock for all purposes is the seedling Brier, although the bulk of these named will succeed on their own roots, grown from cuttings inserted early in September.

Top-dressing for Fig Tree (Homo).—We should certainly again top-dress the Fig tree with the mixture named on November 2nd, 1899, page 392, which, with the treatment advised, we are pleased to hear has resulted in a fair crop of fruit on the tree that had not borne any during the previous fifty years. The mixture may be used for Apples, Pears, and Plums, applying in the autumn or early spring.

Diseased Pear (Idem).—The fruit is so abnormal as not to admit of identification, being more or less browned, and dark blotched and spotted in the skin, through attack of brown rot fungus, *Monilia fructigena*, of which the fructifying parts are only just appearing on the surface of diseased patches. There are also traces of scab fungus, *Cladosporium dendriticum* var. *pyrinum*. The treatment for both pests is to spray with diluted Bordeaux mixture (1 lb. copper sulphate and 1 lb. quicklime to 12½ gallons of water) in spring, just before the leaf buds begin to swell, making a thorough application. Repeat the dressing a little later, just before the blossoms open. Spray for the third time just after the blossoms have fallen, and ten days after this third application spray again, it not being advisable to spray later on early ripening Pears, but the fungus attacks three-parts and even full-grown fruit, the spores coming from infested at a considerable distance, therefore the treatment unless general is not always effectual. All diseased fruit should be destroyed by fire, not leaving them on the ground or throwing on the rubbish heap, as from these the spores that start the disease now proceed in the spring.

Decayed Celery (R. W. D.).—The stick of Celery is quite rotten in the centre, and a portion of this decayed substance contained root-stem eelworm, *Tylenchus obtusus*. This pest may or may not have been the cause of the decay, the primary agent being probably the fungus, which has infested the young leaves in the hearts of the heads before the plants were finally earthed up, and this destroying the tissues has induced decay and attracted the eelworm. Of course there may have been other causes, such as nitrate of soda, or other chemical substance, applied to the plants as fertilisers, which in the hearts of the plants destroys the tender parts, and the centres of the heads rot right away to the base. The spots on the leaves are caused by the Celery blight fungus, *Cercospora apii*, which is a destructive pest. Its presence is usually first seen in the shape of small, irregular, yellowish green spots, less than a quarter of an inch in diameter, upon the leaves. These spots increase rapidly in size, and soon change to a brown colour. It is important that the refuse leaves affected by the disease be gathered and burnt, and to prevent attack and restrict the spreading of the malady spray about every fortnight or three weeks with liver of sulphur, 1 oz. to 10 gallons of water, from pricking off the plants up to the time of blanching. Apart from the foregoing the Celery has every appearance of "soft rot," the central portions of the plants rotting. This has been referred to minute bacteria, and especially attacks plants banked in wet places, sometimes causing serious losses.

Roses for Back Wall of Span-roof Rose Houses (C. D.).—The three earliest and best Roses for such position are Safrano, fawn, and fine, semi-double; Isabella Sprunt, yellow, semi-double; and Papa Gontier, rosy crimson, semi-double. Three second early are Madame Charles, bright apricot, beautiful in bud; Madame Falcot, rich orange yellow; and Sunset, apricot yellow. These will be sufficient, being a little over a yard apart, but if you have half, or preferably full, standards between them, the following would suit: Bridesmaid pink; Catherine Mermet, flesh-coloured rose; Maun Cochet, rose shaded earmine, and yellowish salmon; The Bride, creamy white; and Madame Hoste, yellow. All are Tea-scented, and give flowers in succession more or less throughout the year. They are not climbers, but grow vigorously in well-made borders.

Pear Twigs Infested with Scale (G. P.).—The shoots are badly infested with mussel scale (*Mytilaspis pomorum*). The trees should be unfastened from the wall and dressed with a solution of caustic soda (98 per cent. purity) and commercial potash or pearlash, ½ lb. of each to 6 gallons of water. Apply with a brush at a temperature of 130° to 140°, moistening every part of the branches and twigs, the back as well as the front of the branches. This is a very tedious process, therefore spray the trees with the solution so as to wet every part, yet not drench so as to run down to the roots. Choose a fine day, and whilst the trees are quite dormant. This will mostly prove effectual, and in the spring the trees may be syringed with paraffin emulsion, or a solution made by dissolving 1½ lb. of soft soap in a gallon of water by boiling, and when dissolved, removing from the fire and adding a gill (quarter pint) of paraffin oil, stirring briskly, and when unalgalated diluting to 10 gallons with hot water, using when cool enough. Apply at the end of May and again the second week in June.

Manure for Outdoor Mushroom Culture (Anxious).—As you cannot procure a large quantity of manure at once, only getting a cartload or two a week, it would be better to wait a short time until a sufficient quantity has been obtained for making up the bed. The manure must be spread out thinly, so as not to heat until the time of sweetening, which at this period of year is best done under cover, and it is absolutely necessary that the materials be kept from excessive wet. Particulars on these points will be found in "Mushrooms for the Million," which you have, and should carefully follow in order to attain success. The prices of forced Mushrooms quoted on November 1st apply to outdoor ridge as well as to those grown in Mushroom houses, the outdoor referring to the Mushrooms gathered from fields. It is not possible to get an average wholesale price of 1s. per lb., or even half of that in many instances. The 1-lb. punnet is the usual style of packing Mushrooms for market, and the way is well described and figured in the book referred to. Before embarking on Mushroom culture it would be well to make inquiries and arrange with salesman or customers for the prospective produce.

Japanese and Incurved Chrysanthemums (Weekly Reader).—The undermentioned varieties will be found suitable for conservatory decoration:—Vivian Morel, mauve pink; Charles Davis, yellow shaded crimson bronze; Lady Hanham, cerise and salmon; Edwin Molyneux, crimson, gold reverse; G. J. Warren, yellow; Mrs. Mease, primrose yellow; Madame Carnot, white; Lord Ludlow, yellow, bronze edging; Miss Alice Byron, white; Lord Salisbury, crimson suffused yellow; Soleil d'Octobre, yellow; Mrs. Barkley, colour soft rosy mauve; Mrs. Coombs, rosy lilac; Mutual Friend, ivory white; Pride of Madford, deep rich plum; Mrs. J. Lewis, white; Oceana, rich golden yellow; Mr. T. Carrington, rosy purple; Nellie Poekett, white, dwarf habit; Phœbus, buttercup yellow; Mons. Chenon de Léché, salmon red; Mrs. J. Brynnt, rose pink; Mr. A. Barrett, dark rose shaded chamois; Mrs. Weeks, pearly white; Matthew Hodgson, bright red. Incurved: C. H. Curtis, rich yellow; Duchess of Fife, white tinted lilac; Ma Perfection, pure white, dwarf; Mrs. R. C. Kingston, peach pink; Yvonne Desblanc, ivory white tinted blush; Robert Potfield, silvery mauve; Ialene, rosy pink; Mrs. G. Williams, golden yellow; Hanwell Glory, bronze yellow; C. B. Whitnall, rich plum purple.

Carnations Infested by Flies (A. W.).—The two plants named "Mephisto" have had the "hearts" eaten out by the Carnation fly, *Hylemyia nigricans*, larvæ or maggots. The fly resembles the common house fly, but is much smaller, and is notable for attacking young plants, especially seedlings. Usually, however, it is only the central portion that is destroyed, the affected plants pushing side shoots lower down, and these are not affected by the maggots. The flies appear in the early part of summer, and there are probably more than one brood in a season. The only preventive likely to prove effective is to spray the plants with tar water, an ounce of gas tar being boiled in a quart of rain water for about half an hour, or until it will readily mix with water, then diluting to 6½ gallons with hot water, and when cool enough spraying over the plants very lightly, and repeating occasionally, from the early part of June to that of August. The Malmaison plants are affected by the Carnation leaf-spot fungus, *Septoria dianthi*, a widespread and troublesome disease. Care in watering is very important, not spilling any on the leaves, and a free circulation of air. Being endophytic, outward applications can only prevent the disease and its spreading. The worst infested leaves should be removed and burnt, spraying the plants with potassium sulphide or liver of sulphur solution, 1 oz. to 10 gallons of water.

Leaf for Identification (Leo).—The leaf appears to be that of the Dwarf Elder (*Sambucus Ebulus*), which is a hardy herbaceous perennial, a native of Britain, and a weed in many, indeed most places. If right in our identification it is not worth growing. The flowers are white tipped with pink, produced in cymes 3 to 4 inches in diameter, in July and August. It is difficult, however, to determine the name of a plant by a leaf.

Insect on Vine Leaves (Ignoramus).—The insect is in the egg state, and has a strong resemblance to that of the Vine louse, *Phylloxera vastatrix*, the egg being affixed by a small hook, and is of a sombre green colour, though in the specimen approaching purple. In this state it passes the winter on the bark, and in spring a wingless insect is hatched with a very long sucker. We should carefully collect and burn the leaves and also the prunings, for though we are not quite certain about the identity of the eggs the resemblance is so convincing that no effort should be spared. When the Vines have been pruned syringe the house and Vines with water at a temperature of 140°, in order to addle the eggs, and then dress the Vines with a solution of caustic soda, 98 per cent. purity, and commercial potash or pearlash, 1 oz. of each to 1½ gallon of water, and apply by means of a clean, half-worn painter's sash brush at a temperature of 135°. It will suffice to just moisten the rods and spurs with the solution, yet reaching into the cracks and crevices. If there be any infection at the roots, they being galled, it would be well to saturate the soil with water at a temperature of 105° to 110°, this heat being fatal to the pests and not injurious to resting Vines.

Grubs on Cyclamens (P. R. G.).—The larvæ are those of the grooved or black Vine weevil (*Otiorhynchus sulcatus*). The cause of the attack is that of the Cyclamen roots and corms affording food; the female weevil, instinctively knowing that, selects the soil in which Cyclamens are growing for the deposition of her eggs. We do not know of any other cause, and you can verify it by destroying the parents, when there will not be any attack. The grubs are not easy to kill in the soil except by poisons which we do not care to mention in connection with plant culture, as there is great danger of accidents, and even of misuse by evil-disposed persons. If you can procure some ammoniacal liquor from gasworks, dilute it with six times the quantity of water, and supply it to the pots after plunging the holes with clay till it appears on the surface, leaving the plants for two or three minutes to make sure that the gas-liquor water acts on the grubs or moistens the soil where they usually are at the base of the corms, and then removing the plugs, letting the water run off freely, and grubs will be destroyed. Or water with nitrate of soda, 2 ozs. to a gallon of water; but it is necessary to get it at the grubs in the manner described, and after a few hours water with clear water to get rid of the excessive amount of nitrate.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless *A. ples* and *Pears* sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (T. J.).—1, Flower of Kent; 2, Beurré Bachelier; 3, Doyenné Boussoch; 4, Beurré Diel; 5, Transcendent Crab. (H. F. L.).—1, Catillae; 2, Durondeau; 3, Cox's Orange Pippin; 4, Tower of Glamis; 5, Reinette de Canada; 6, Norfolk Bearer. (W. B.).—There were only three varieties of Apples; 2, Claygate Pearmain; 3, Alfriston; 4, Bramley's Seedling. (J. T.).—1, Mère de Mönage; 2, Cobham; 3, Emperor Alexander. Pear Forelle or Trout. The specimens were all well grown and beautifully coloured. (D. M. B.).—1, probably Glou Morceau, gathered too soon; 2, Beurré d'Arenberg; 3, decayed beyond the possibility of recognition; 4, Spencer's Favourite; 5, Manks Codlin; 6, Hawthornden. (H. E. A.).—Beurré Clairgeau. (W. L. F.).—1, Calville Rouge Précoce; 2, King of the Pippins; 3, Emperor Alexander; 4, Kerry Pippin; 5, unrecognised; 6, Cox's Orange Pippin.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form

the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (T. C. R.).—1, *Pyrethrum uliginosum*; 2, *Helianthus decapetalus*; 3, *Myrtus buxifolia*; 4, *Engenia Ugni*. (W. G.).—1, *Asplenium bulbiferum*; 2, *Pteris cretica albo-lineata*; 3, *Nephrolepis tuberosa*; 4, *Begonia Dregoi*; 5, *Jasminum nudiflorum*. (B. P.).—1, *Retinospora squarrosa*; 2, *R. obtusa*.

Covent Garden Market.—November 21st.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bush. ...	2	0 to 4	6	Nectarines, doz.	1 6 to 9 0
„ cooking, bush. ...	1	6	5 0	Oranges, case	10 0 15 0
Cobnuts, doz. lb., best ...	4	0	5 0	Peaches, doz. small... ..	1 0 2 0
Figs, green, doz.	0	6	0 10	„ doz. good size	6 0 9 0
Grapes, black	0	6	2 6	Pears, crate	3 0 7 0
„ white	1	6	3 0	„ stewing, case of	
Lemons, case	8	0	25 0	72 to 120	4 6 6 6
Melons, house, each ...	0	6	2 6	Pines, St. Michael's, each	3 0 6 0
„ water, case	3	6	5 0	Plums, $\frac{1}{2}$ bush.	3 6 0 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.		
Artichokes, green, doz. ...	3	0 to 4	0	Leeks, bunch	0 1½ to 0 0		
„ Jerusalem, sieve	2	0	0	Lettuce, doz. French ...	1 0	1 3	
Asparagus (Spruce Grass)	0	8	0	„ Cos, score	0 6	2 0	
„ Paris Green ...	4	6	5	Mushrooms, forced, lb. ...	1 0	0 0	
Anbergines	1	0	1	„ outdoor, lb. ...	0 4	0 6	
Beans, French, per lb. ...	0	4	0	Mustard and Cress, pint.	0 2	0 0	
„ Jersey, per lb. ...	0	9	0	Onions, Dutch, bag ...	4	0	4 6
Beet, red, doz.	0	6	0	„ English, cwt. ...	5	0	0 0
Brussels Sprouts, sieve...	1	6	0	Parsley, doz. bunchs. ...	2	0	0 0
Cabbages, tally	3	0	5	Potatoes, cwt.	3	0	7 0
Carrots, doz. bunch....	2	0	3	Seakale, best, doz.	24	0	0 0
Cauliflowers, doz.	1	0	2	„ 2nd, doz.	12	0	0 0
Celery, bundle	1	0	0	Shallots, lb.	0 2	0 3	
Cucumbers, doz.	1	6	3	Spinach, bush.	1	0	1 6
Endive, score	1	6	0	Tomatoes, English, lb. ...	0 2	0 5	
Herbs, bunch	0	2	0	Turnips, doz.	2	0	3 0

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.		
Asparagus, Fern, bunch	1	6 to 2	6	Maidenhair Fern, dozen			
Carnations, 12 blooms ...	1	0	3	0	bunches	4	0 to 8
Cattleyas, doz.	9	0	24	0	Marguerites, doz. bunchs.	2	0
Chrysanthemums, dozen					" Yellow, doz. bunchs.	2	0
blooms	1	0	3	0	Odontoglossums	3	0
Eucharis, doz.	2	0	3	0	Roses (indoor), doz. ...	2	0
Gardenias, doz.	1	0	2	0	" Red, doz.	1	0
Geranium, scarlet, doz.					" Safrano, doz.	1	6
bunches	6	0	9	0	" Tea, white, doz. ...	1	0
Lilac, white, bunch, ...	4	0	6	0	" Yellow, doz. (Perles)	2	0
Lilium lancifolium album	1	6	2	6	" English, La France,		
" rubrum	1	6	2	6	doz.	1	0
" various	2	0	3	0	Smilax, bunch	2	0
Lily of the Valley, 12 bun.	6	0	15	0			

Average Wholesale Prices.—Plants in Pots

	s. d.	s. d.		s. d.	s. d.
Acers, doz.	12	0 to 24	0	Foliage plants, var., each	1 0 to 5 0
Arbor Vitæ, var., doz. ...	6	0	36 0	Geraniums, scarlet, doz.	6 0 10 0
Aspidistra, doz.	18	0	36 0	„ pink, doz. ...	8 0 10 0
Aspidistra, specimen ...	15	0	20 0	Hydrangeas, white, each	2 6 5 0
Azaleas, various, each ...	2	6	5 0	„ pink, doz. ...	12 0 15 6
Boronias, doz.	20	0	24 0	„ paniculata, each	1 0 3 0
Cannas, doz.	18	0	0 0	Lilium Harrisii, doz. ...	8 0 18 0
Crotons, doz.	18	0	30 0	Lycopodiums, doz. ...	3 0 6 0
Dracæna, var., doz. ...	12	0	30 0	Marguerite Daisy, doz. ...	8 0 10 0
Dracæna, viridis, doz. ...	9	0	18 0	Mignonette, doz. ...	8 0 12 0
Erica, various, doz. ...	8	0	18 0	Myrtles, doz.	6 0 9 0
Euonymus, var., doz. ...	6	0	18 0	Palms, in var., each ...	1 0 15 0
Evergreens, var., doz. ...	4	0	18 0	„ specimens	21 0 63 0
Ferns, var., doz.	4	0	18 0	Roses, doz.	6 0 18 0
„ small, 100	4	0	8 0	Stocks, doz.	8 0 12 0
Ficus elastica, each ...	1	6	7 6		

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THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

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The Experimental Work of Sir J. B. Lawes.

WE think we may say that the first experiments on which Sir John engaged were in connection with bones. They are a valuable manure, but at the time of which we write their qualities with respect to various crops were an unknown quantity. By means of several hundred tests Sir John came at the root of the matter and demonstrated when, how, and where bones would be of value. As we said before, he was the first to treat the bones to a dose of sulphuric acid. This acid let loose, as it were, the manurial properties of the bone, and made them more easily available for plant life. We import now about half a million tons of phosphates that will produce nearly double that amount of superphosphates, such is the growth of this industry.

At one time we may fairly say the four-course system prevailed throughout the farming world. That system answered as long as prices were good and rent, wages, and other expenses not excessive, but a time has come when if we are to make money at all, or rather not to lose what we have made, we must not stick to the old four-course, it is too hampering, too expensive. Two white crops in succession were penal, but two white crops can be grown in succession, and well grown provided we know how to do it. There is a field at Rothamsted called Broadbalk in which Wheat has been grown for fifty-seven years in succession, without manure, with farmyard, with artificials. This field proves that Wheat can be so grown with good results provided the land is kept clean and the requisite manure applied. The average yield of the unmanured plot from 1852 to 1897 was nearly 13 bushels per acre, or more than the average yield of U.S.A., inclusive of their rich prairie land, and the average of the world's Wheat growing lands. It was proved that mineral manures alone gave little increase, nitrogenous alone more than mineral, but a mixture of the two more than either separately. One mixture beat the farmyard manure. Farmyard manure is only limited in quantity, whereas artificials are only limited by the purse.

Part of the park was set apart for experiments on grass. There is grass and grass, and it is positively certain that much grass would be materially improved by systematic manuring. Stock does not give back in manure all that it takes out. There must be a supplement of some sort. And if stock will exhaust land, what about continual mowing? It perhaps has not occurred to everyone that weeds may abound in grass quite as freely as in arable land. Weeds are always "matter in the wrong place." They need not exist, and should not take the place of, and crowd out, good herbage plants.

Now we shall speak in full of these grass experiments because they are of such immense value. The permanently unmanured piece was largely composed of weeds found in poor meadows—produce of hay about 1 ton per acre. Ammonium salts did not increase the crop, but nearly all the weeds were gone. The grass here was dark in colour. Fairly luxuriant herbage, mingled with Vetch and Clover, was the result of potassium salts and phosphates. Ammonium salts, potash, and phosphates disposed of all weeds and Clovers, and their place was taken by heavy crops of flowering Grasses, yielding from $2\frac{1}{2}$ to 3 tons per acre. There are twenty of these plots under close observation, and undergoing different courses of treatment. Who shall estimate the value of these observations?

But Sir John did not by any means confine his attention to plant life. The growth of crops is only the half of a farmer's business. He has stock to raise for breeding purposes, for feeding purposes, for draught purposes. To secure any sort of a profit he must have quick returns. Early maturity is the cry, and this early maturity must be achieved by a minimum of food. To find out how to do this experiments were begun as early as 1847. Tons upon tons of valuable food have been wasted because people had no notion of the constituents, and tried to build up flesh and fat with wrong materials. There are some breeds of oxen and sheep that yield to generous treatment speedily—that is, they are of so kindly a nature that they will get fat while other stock are only just in a thriving condition. Here is a way of

helping the farmer's pocket, and the consumer's likewise. But it is not from the butcher's point of view alone that these experiments were and are so valuable. Meat is not the only yield. There is the manure, which is of immense value, and what Sir John aimed at—1, was to find a food that fattened quickly; 2, and also a food that imparted to the manure the highest possible value. Such results are not arrived at without years of patient experiment.

The papers and reports on the Rothamsted experiments, published by Sir John Lawes and Sir Henry Gilbert, are innumerable, and embrace every subject that can be of interest to every class of cultivator, big or little, and we are not going beyond bounds when we say that many of these papers will be ranked in coming times as foremost among agricultural classics.

We hear a good deal about "unexhausted improvements." If ever a man knew anything of the subject it was this man, and on it he spoke and wrote as one having intimate knowledge of the possibilities of the improvements. A lifetime, and that a long one, is not enough to work out the full series of gigantic experiments inaugurated by him. He lived for posterity, and that posterity should not be the loser at his death, he left the munificent sum of £100,000 for the continuation of these experiments. Is not this a man of great public spirit? Is not this something like a benefaction?

In 1854 agriculturists were wishful to show some appreciation of Sir John's endeavours for the benefit of scientific farming, and instead of purchasing plate the testimonial took the unusual form of a laboratory; and truly a place of work and diligent research it has proved. In 1893, the worker never having ceased his efforts, it was felt that something must be done to commemorate the jubilee of the Rothamsted experiments. A rough-hewn granite boulder with a short but terse inscription was erected in front of the laboratory at Harpenden, and a portrait by Herkomer were the outcome of this feeling. He was a man whom kings delighted to honour; we will go a step further, and say a man whom all learned societies valued, and that is perhaps higher praise. Learned societies alone can form some estimate of a scientific life work. They know it has necessitated close and constant application—we were going to say "hard" work—but we doubt if that word should be applied to a labour of love, for it can only be when a man is enamoured of his subject that he will give himself up heart and soul to it for fifty-seven years.

This is a poor and inadequate testimony; only one laurel leaf, as it were, laid on the coffin. If ever a man's works lived after him this man's do, and make for him a memorial that Time cannot destroy.

Work on the Home Farm.

The weather still keeps open, though there is a touch of frost in the air, and we must expect a change before long.

We do not grow many Carrots, but they are a very fine crop, probably twenty tons to the acre; the wet weather which ruined the Potatoes was just what the Carrots liked. This crop is grown very largely on a sandy belt a few miles away, and reports are very satisfactory both as to quantity and quality. The roots are very clean and good. Owing to the mild season the crop has been allowed to grow later than usual, but it is now being stored. Prices are falling, and good stuff is hardly worth 30s. per ton on rails.

The earlier sown Wheats are well up, and show thickly in the row. The land is fairly firm, but if the present drying winds should make another rolling possible the opportunity must be made use of, for we do not know how long we may have to wait for another chance.

The land has dried very much since last week, surprisingly so for November, and ploughing is now being accomplished under perfect conditions. It is a case of all hands to the plough, and the work will soon be finished. The next two items will be Swede storing and manuring seeds for next year's Potatoes. The ley will have to be ploughed deeply in December, and the muck must be on and well spread before then.

To grow Potatoes properly a large amount of yard manure should be used, or to put it differently, nothing gives a better return for muck than does the Potato crop, but it is undesirable to put twenty loads per acre in the furrows when planting. The better plan is to apply a good dressing now, and plough it in with the turf, giving another dressing at planting time if the manure is available.

We fear there is too much avoidable waste of labour on many farms. We have observed just now two striking examples of loss through want of balance in a farm gang. One instance. One man to empty baskets, fill bags, weigh, carry away offal, and generally wait on seven women sorting Potatoes. With a second man the women would have done twice the work. Another. An old man and a young lad on the stack on thrashing day, the machine doing 70 per cent. of the work it might do, and the full force of men in other positions doing the same proportion and having an easy time. £1 worth of work lost for the sake of saving 2s. or 2s. 6d. What splendid economy!

HEDGE PLANTS! HEDGE PLANTS!

Millions of them in the most useful and ornamental varieties; very stout, and with extra good roots.

QUICKS.

1-year seedlings, 3/6; good 3-year Quicks, 10/6 to 15/-; stout, 1½ to 2ft., 25/-; 2 to 2½ft., 30/-; 2½ to 3ft., 40/-; GAPPING QUICKS, 50/-, 60/-, and 80/- All per 1000. Very fine, with extra good roots.

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COMMON, 1 to 2ft., 25/-; 2 to 3ft., 35/-.
OVALIFOLIUM, a very extra quality, having been cut down and much more bushy than what is usually sold. 12 to 18in., 35/-; 18 to 24in., 45/-; 2 to 2½ft., 65/-; 2½ to 3ft., 75/-; 3 to 4ft., 120/- All per 1000. Less quantities than 500 of Thorns or Privet are charged 6d. per 100 extra.

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WINTER-FLOWERING BEGONIAS, 6 fine varieties, 6/-.
BEGONIA, GLOIRE DE LORRAINE, fine stuff, in 5in. pots, 1/6 and 2/6 each.
BOUVARDIAS, in 6 fine varieties, 6/-; 12 varieties, 10/-.
TREE CARNATION, MRS. LEOPOLD DE ROTHSCHILD, in bud, 1/6 each, 12 for 15/-; 6 fine kinds for winter-flowering, 7/6.
BORDER CARNATIONS, in finest varieties, good stuff, 5/- per dozen; 6 for 3/-.
YELLOW GROUND CARNATIONS, in fine variety, 7/6 per dozen; 6 for 4/-.
AZALEA INDICA, named varieties, good stuff, well budded, 18/- and 24/- per dozen. A few extra specimens, 3/6 and 5/- each.
AZALEA MOLLIS, 30 to 50 buds, 9/- and 12/- per dozen.

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Journal of Horticulture.

THURSDAY, NOVEMBER 29, 1900.

Late Grapes.

Good Flavoured Varieties Wanted.

NOTWITHSTANDING the many varieties of Grapes which from time to time are sent out with a flourish of trumpets, it is surprising how few are equal, much less superior, to the old standard varieties. The grand old Muscat of Alexandria is still the best white Grape in cultivation for midseason crops, and if grown in a late house it keeps almost as long in the autumn as any other white variety, and in respect of flavour it easily holds its own. The variety which the most nearly approaches it in point of merit for autumn and winter use is Mrs. Pearson, which may be kept rather longer than Muscat, and is of good flavour. Its weak point is that the berries are a trifle undersized.

Trebbiano may be kept in good condition longer than Muscat of Alexandria—in fact, it may sometimes be seen in a plump condition in March. The skin is, however, rather tough, and, although in point of flavour it is passable, it will not bear comparison with the two varieties already named. The white Gros Colman, which at one time seemed to promise so well, has never made much headway, and one seldom meets with a Vine of it now. It seems to me that by crossing and re-crossing Trebbiano with Muscat we ought in time to raise a late Grape good in every respect—i.e., one having berries as large as Muscat, almost if not quite as good in flavour, and which would also keep well till March or April. Surely it is not impossible to raise such a Grape.

Turning to black Grapes there appears to be

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quite as much room for improvement. Mrs. Pince is decidedly the best flavoured among the varieties generally grown, but it can seldom be relied upon to keep after the early part of December. It is, moreover, not a variety which the majority of cultivators succeed in growing satisfactorily. Under some conditions it sets badly, and does not always produce bunches freely, but those who have mastered the details of its culture do not complain of its behaviour in these respects. It requires a little more heat than most other late sorts, should have a well drained border, and the laterals be not less than 18 inches apart. It then produces strong shoots which ripen well and carry plenty of bunches. Alicante has the great merit of being easily grown, bears enormous crops, and sets with certainty. It keeps well till Christmas, but the skin is tough, and the flavour only second-rate. If Alicante only possessed the exquisite flavour of Mrs. Pince it would be a grand Grape indeed.

Gros Colman must certainly be termed the king of late Grapes as far as appearances go, for the noble berries and shapely bunches always command attention. It has also a thin skin if not given much fire heat during the ripening period, but many market growers apply fire heat freely to toughen the skin in order that the Grapes should travel well. The toughened skin is, however, usually obtained at the expence of colour, for Gros Colman colours splendidly when only a slight amount of fire heat is given during the ripening stage, though the Vines should be started early with fire heat. Large quantities of Colmans are placed on the markets during the autumn, but to my mind the flavour then is poor, almost distasteful; but the berries being juicy and having plenty of flesh, are said to be good for invalids. What a grand Grape Colman would be if it possessed the flavour of Black Hamburgh or Madresfield Court. I suspect, however, that raisers have before now tried the experiment of crossing it with one or other of those two fine flavoured Grapes.

The preceding remarks bring to my mind a good late Grape which I saw exhibited recently, and which does not seem to be very well known. I think it is named Royal Leamington, and was exhibited by Mr. Crump, Witnash, near the pretty Midland town from which it derives its name. The variety is supposed to be a cross between Alicante and Gros Colman. In appearance it greatly resembles Madresfield Court, and after tasting it I feel sure it must have some Madresfield blood in it, as in flavour it was much like that fine Grape, and is certainly the best flavoured late Grape I have seen with the exception of Mrs. Pince. Royal Leamington appears to be a good keeper too, as the bunches I saw during the last week in November were as fresh and plump in the berry as Lady Downe's. The latter Grape, though excellent in flavour, does not seem to be much grown now, probably because both bunches and berries, as a rule, are rather small; still, it is well worth growing, although the skin is thick, for it can be kept in good condition till April. The consideration of late keeping Grapes is a matter of great importance to gardeners generally, and I think might with advantage be dilated upon by some of the many noted cultivators who peruse the pages of the *Journal of Horticulture*.—H. D.

Distances for Fruit Trees.

ONE of the greatest mistakes made when planting fruit trees is that of placing them too closely together. A systematic method as to the distance between certain forms of trees must be adopted, as the various kinds of fruit differ in their habit of growth. The forms in

which they are trained, and the stocks upon which they are grafted, influence the amount of space required. As a rule, it is the better plan to give too much than too little space for the ultimate requirements of the trees, because there is then no fear of failure resulting from one tree encroaching on another. Numbers of good trees are spoiled from this cause—the initial mistake of planting too thickly. It is a wasteful method all through, involving extra labour, a larger number of trees, impoverishment of the soil, unshapely specimens, overthrows the balance of growth, and finally results in a diminished crop, if not a total failure.

On the other hand, look at trees that have had light and air freely playing all round and through them from the time they were planted until reaching their full development. They will, if judiciously managed as to the annual pruning or thinning, be models in shape, healthy, sturdy, and fruitful, provided spring frosts do not injure the blooms and destroy reasonable chances of fruiting. The cultivator who plants thickly may have in view the removal of a portion as soon as they are likely to encroach on their neighbours. Those, however, who are inclined to do this should first of all plant permanent trees at the proper distance apart; then, with a view to making the most of unoccupied space, and obtaining a temporary supply, extra trees may be planted, to be removed eventually and used elsewhere.

It may be interesting to some intending planters to know what are the proper and generally recognised distances which the most successful cultivators adopt and follow. Taking first standard trees, comprising Apples, Pears, Plums, and Cherries, these naturally require to extend, no formal pruning being carried out, hence give them at least 24 feet. Pyramidal trees, including Pears, Apples, Plums, and Cherries, may be planted 6 to 12 feet apart, according to the kind of stock. Pears on the Quince stock may be 6 feet apart. If on the Pear stock and planted at this distance root-pruning would be necessary, or it would be impossible to induce the strong growths to be fruitful. Without root-pruning 12 feet space between will be necessary. For pyramidal Plums a distance of 6 feet as a minimum, and 12 feet as a maximum, is necessary. Pyramid and bush Cherries are usually grafted on the Mahaleb stock, and if the trees are grown 6 feet apart they must be root-pruned occasionally.

Pyramid and bush Apples can be grown 6 feet between the trees if they are on the Paradise stock and root-pruned. Allow double the space if not root-pruned. Horizontally trained Apples, Pears, Plums and Cherries, whether grown on walls or wires, should be 20 feet apart, including Apples on the Crab stock, and Pears on the Pear stock, but Pears on the Quince, and Apples on the Paradise stocks may be 12 to 15 feet apart. Upright cordon Pears, Apples and Cherries ought to be 3 feet apart and diagonal cordons 2 feet. For the latter 18 inches in many cases is sufficient, but the spurs must be kept closely in. Peaches and Nectarines, also Apricots for walls, fan trained, require 20 feet distance between them.

Currants and Gooseberries as bushes in the open are best with 6 feet of space between them. Red and White Currants and Gooseberries grown on walls or wires as cordons must have each cordon branch 9 inches to a foot apart. Single cordon trees plant a foot apart. Upright cordons are the best. Planting at the proper distances lays the foundation of success, but it will be of little use if the trees individually are not kept well thinned out from the first so that the branches may develop under the good influences of unlimited room. This is the next matter of importance. Gooseberries and Currants are frequently planted between standard fruit trees, where they succeed well and do not obstruct the permanent trees. The proper distance for planting them in this position is 5 or 6 feet, removing the bushes nearest the trees as soon as signs of crowding are apparent.—E. BARROW.



Cattleya H. S. Leon.

It is only on comparatively rare occasions that Mr. A. Hislop, gardener to H. S. Leon, Esq., Bletchley Park, Bletchley, brings exhibits to the Drill Hall, but when he does the plants are invariably worthy of inspection. On Tuesday, November 20th, he placed before the Orchid Committee *Cattleya H. S. Leon* (fig. 125), which resulted from a cross between *C. Schröderæ* and *C. gigas Sanderiana*, and the presence of the first named is clearly indicated by the fragrance of the flowers. The colour of the sepals and petals is (as far as could be seen on such a dull day) rich rose with a delicate purple suffusion; the superb lip is brilliant velvety crimson. *C. H. S. Leon* is a magnificent *Cattleya* that thoroughly deserved the first-class certificate recommended by the Orchid Committee of the Royal Horticultural Society.

Cypripedium Parishii.

During his active life and travels the late Rev. C. S. Parish enriched our collections with many fine Orchids, and the *Cypripedium* that bears his name is not the least beautiful of them by any means. It is especially interesting as forming a kind of connecting link between the Asiatic species, of which *C. barbatum* and *C. insigne* are examples, and the South American *Selenipedium*. Of the two it resembles the latter section the more closely, though its habitat is in Moulmein.

C. Parishii is a very delightful species when seen at its best, and is not more difficult to grow than scores of others that are freely represented in almost every collection. It flowers at a rather dull season of the year too, yet it is not by any means a popular plant for some reason or another. To grow it well the heat of the East Indian house is essential, and for preference a shady position should be chosen, at least during the summer months. In winter, of course, like all other exotics, it often pines for light, especially in smoky town districts. The compost may consist of equal parts of peat fibre, sphagnum moss, and fibrous loam, to which plenty of rough charcoal or crocks have been added. It dislikes very large pots, but those used must be clean and well drained.

Keep the foliage clean, and give ample moisture at the roots and in the atmosphere.

Small Collections of Orchids.

THE grouping of various species of Orchids in their proper temperatures is an important point in their culture, and growers who have a number of houses heated to various temperatures stand a far better chance of success with difficult species than do others without such conveniences—the plants can be tried in the different houses until the correct place is found for them. But allowing all this, it is remarkable what a number of really good and desirable Orchids can be grown in a single structure provided they are judiciously arranged and carefully tended.

A very useful adjunct to such a house is a roomy frame or pit in a shady, cool part of the garden. Here the cooler section can be grown in the summer, while the warmer sorts can be safely given proper conditions and ample room after the former have been removed. In winter the house will naturally be rather full, but many plants will be at rest, or partially so, and although ample light is a desideratum, yet they are less likely to feel the loss of it at such a time than when growing freely. And when a considerable stock of such things as *Thunias* and deciduous *Dendrobiums* are grown the room they need in winter is very little compared with that they take up in summer when they are in full leaf growth.

For the winter months it is best to strike the happy medium with regard to temperature. *Cattleyas* and *Lælias*, evergreen *Dendrobiums*, and the usual run of pseudo-bulbous Orchids are quite happy in a mini-

mum night temperature of, say, 53°; and although this is slightly too high for *Odontoglossums* and cool Orchids generally, yet a high winter reading is not nearly so injurious to them as too much heat in summer. As to the warm-growing set that usually inhabit the East Indian house, these, it is true, will be a little incommoded, but not so much as may be imagined, provided they are kept well on the dry side at the roots.

The time when these must be specially considered is in autumn, ample light and heat being allowed to encourage them to finish and ripen their growth, rendering the latter less susceptible to sudden checks or an uniformly low temperature. Great care is then necessary with the *Cattleyas* and *Lælias* to prevent unseasonable growth, while the freedom with which they are exposed to the waning sun in autumn necessitates their being placed in that part of the house where most air reaches them; this to avoid scorching of the foliage. Many minor matters will need attention, according to the species that are grown, but the interest of such varied collections is great.—H. R. R.

FIG. 125.—CATTLEYA H. S. LEON.



The Garden in Autumn and Winter.

TIME flies! Autumn days have once more passed away, to be succeeded by the dreary times of winter; yet, so far, how kindly have the elements dealt with us, for real November fogs have been conspicuous by their absence. Vegetation in the open air still looks fresh and green, and the leaves linger long upon the Beech and Oak. What a wonderful autumn it has been for Chrysanthemums in the open air! Never do I remember their having made a more gorgeous display. In gardens, large and small, throughout the land, they have braved the winds and rains, and have been by far the brightest flowering plants to be met with in the open air. During such favourable seasons Chrysanthemums out of doors seem to have brighter colours than the same varieties when grown under glass.

These "queens of autumn" are so easily grown that they ought to be far more extensively planted in the open air. True, early frosts will sometimes nip their beauty in the bud, but they give so little trouble that we can afford to risk something in our efforts to brighten our gardens in autumn. The following are a few varieties which I have this year noted as being especially good in the open air:—Queen of the Earlies and Madame Desgrange, both fine whites; Crimson Précocité, Frederick Pele, crimson tipped with gold; Madame Edward Lefort, bright orange tinted red; Madame Marie Masse, Rycroft Glory, W. Holmes, Flora, Bol, crimson brown; Cedo Nulli, white; Cedo Nulli, yellow; Golden Fleece, Piercy's Seedling, and St. Crouts. Those who have sheltered positions in front of a south wall could also plant some of the later kinds.

The recent rains have thoroughly moistened the soil, and made it suitable alike for lifting and replanting fruit trees. Many energetic gardeners have taken time by the forelock and have planted the bulk of their trees; the work may, however, be successfully conducted during mild weather for the next three months. Our gardens and markets are certainly not overstocked with late varieties of Apples. All planters should bear this in mind and plant a good percentage of such fine late kinds as Wellington, Lane's Prince Albert, Newton Wonder, Bramley's Seedling, Alfriston, and Hambledon Deux Ans for cooking; and Lord Burleigh, Hornead's Pearmain, Fearn's Pippin, Sturmer Pippin, and Allen's Everlasting for dessert. Everyone of the above are sterling varieties which produce clean, attractive-looking fruit if cultivated on rational lines.

Much other work needs attention in the fruit garden during the next few months. All root-pruning necessary ought to be completed as soon as possible, to encourage the production of young fibrous roots before growth is far advanced in spring. Numbers of old gardens there are where the espalier trees are not nearly so productive as they should be, because the spurs are too thick, the roots too strong and fibreless, and the top growth far too gross; the wood does not ripen as it should, and canker and American blight are rampant. In such cases root-pruning and thinning the spurs will often put matters right. Trenches should be taken out round the trees at from 2 to 4 feet from the main stems, the soil worked from between the roots, the main ones being severed, and fresh soil added. During the process of filling in the roots ought to be raised, so as to have the hulk of them near the surface, as they usually go down fast enough. Simple matters these things may appear, but it is necessary to give them due attention to maintain trees in a fruitful condition, or to bring neglected ones into a satisfactory state again.

Hand in hand with root-pruning should go the practice of thinning out the spurs of such trees; fully half of them may often with advantage be cut away, and the remainder be shortened so as to aid in the production of fresh spurs near the main stem. When canker is prevalent every affected part should be cut out in the spring, and the wound coated with Stockholm tar, to prevent the ingress of the canker fungus. In the case of trees suffering from an attack of American blight, all the rough parts of the bark ought to be dressed with spirits of wine, worked well in with a brush; or with a solution formed of 6 ozs. of softsoap to 3 gallons of water, and a wineglassful of paraffin oil added; the oil should be mixed with the soap in a little boiling water before the bulk of the water is added.

In some instances espalier trees, instead of growing too strongly, make very little growth indeed, and do not blossom freely. Poorness of soil is often the cause, and matters may be considerably improved by removing a foot or more of the surface soil, and replacing it with good loam or fresh soil from the vegetable quarters. If necessary the spurs ought also to be freely thinned. The above remarks apply to trees which, by reason of their position or for the sake of appearances, must be kept closely pruned. When, however, there is no objection to allowing them to extend, the best way to bring them into a fruitful condition is to simply let the branches extend in all directions, and thin them to a foot apart. In a few years abundance of fruitful wood is secured, which in one season will often give more fruit than can be obtained in five under a system of close pruning when trees are old.

Pear trees on walls which have old and ugly spurs sometimes need severe pruning. If all the spurs are sawn off close to the main branches plenty of young shoots are sent out the following season. Such shoots should be thinned to 4 inches apart, in July stopped to five or six leaves, and at the winter pruning be cut back to one bud. In a few years plenty of blossom buds are then formed. Only healthy vigorous trees should, however, be so treated; if enfeebled or cankered the best course to follow is to uproot them and plant approved varieties. Standard and bush Apple and Pear trees, even when not closely pruned, sometimes grow too strongly, and in their case root-pruning will usually check over-exuberance of growth, and hasten blossom bud formation. Many other cultural operations necessary in the fruit garden I hope to treat of shortly. I began these notes with the intention of dealing with various phases of gardening, but the engrossing subject of fruit culture has, as usual, drawn from me the lion's share of attention.

Let me close with a few remarks about vegetables. I wonder how many gardeners can remember a finer season for autumn Cauliflowers. They seem to have been plentiful enough everywhere, and as good in size and quality as they were abundant. All this, I think, was principally owing to the fine rain experienced in August when the plants were in full growth. Celery, too, is also good, and the numerous examples of the Brassica family promise to keep the "pot" full to overflowing throughout the winter.

A timely hint to those who have old gardens to manage is dress any vacant quarters with gas lime at the rate of 56 lbs. per rod, and let it lie for a month or six weeks before digging it in. Little trouble should then be given by grubs, millipedes, and slugs next season, and the land will also be in other ways sweetened and enriched by the application.—ONWARD.

Certificated Plants.—No. 2.

Florists' Flowers.

THE year in which the Floral Committee of the Royal Horticultural Society was formed—1859—was a period of great activity in the improvement of what were termed florists' flowers. During the end of the forties, and early in the fifties, it was possible to hear of crowds of the *élite* of London society thronging to see Dahlia, Pansy, and Tulip exhibitions in London and its suburbs, so great a hold had these and other plants upon the imagination of the people. They were the most popular flowers of the day, and at that time society had not put forward such grievous claims upon the time of the well-to-do as it has for some years past. Nurseries for the propagation and sale of florists' flowers had sprung up in many of the suburbs of London. Chandler & Sons, Catleugh, Gaines, Denyer, Dobson, the Hendersons in the Wellington Road, St. John's Wood, and Pine Apple Place; Salter, Hopwood, Ivory, Lee, Osborn, Rawlings, Salter, and Smith, were then leading florists, while in the provinces were Brown, Keynes, Lane, Turner, Paul, and others. Glenny and Widnall were to the fore; amid their followers John Edwards was at Holloway, Chas. Lidyard at Hammersmith, Kinghorn at Orleans House; further afield would be seen Hoyle at Reading, Foster at Clewer, Perry at Handsworth, there editing the "Midland Gardeners' Magazine;" Dr. Maclean at Colchester, Anthony Parsons at Ponders End, R. Headly at Stapleford, E. S. Dodwell at Derby, and numberless others. What a rush of memories come with the contemplation of these names! Nor must Donald Beaton be forgotten, with his pleasant chatty papers on florists' flowers in the "Cottage Gardener," and his *confrères* Fish and Errington; nor Samuel Brown, then beginning the task of showing the people of London what an excellent town flower the Chrysanthemum is.

The Auricula was a popular flower during the fifties, and many raisers were at work endeavouring to improve it. It is an interesting fact that during the first five years of the existence of the National Horticultural Society—1851 to 1855—only four Auriculas received awards, and one of those was Alpine King of Crimson; a kind of epoch flower, because it was one of the earliest of Mr. C. Turner's improvements, and the forerunner of many floricultural triumphs. It was not until 1887 that the Floral Committee of the R.H.S. made awards to Auriculas, such as Abbé Lizst, green edge; and Sir Wm. Hewitt, self, both raised by Mr. J. Douglas, gaining certificates of merit in that year.

But the National Auricula had meanwhile made awards to seedlings, for the Rev. F. D. Horner had been at work for a few years, and by careful cross fertilisation setting up high standards of quality in his seedlings. It is probably impossible to adequately express the obligations of Auricula cultivators of the present day to Leigh for his Col. Taylor, Page for his Champion, Booth for his Freedom, Old Robin Lancashire for his Hero, Lighthody for his Richard Headly, Headly for his George Lighthody, Taylor for his Glory, Heap for his Smiling Beauty, and Kay for his Topsy. It is a singular fact that up

to and inclusive of 1856, the late Mr. C. Turner did not catalogue a single self Auricula, and his splendid Alpines were an undreamed of acquisition.

Conspicua was almost the only Alpine Auricula in cultivation in the early fifties. Now the Alpine Auriculas are being improved in several quarters, and during the past fifteen years fine double varieties have put in appearance far in advance of the old double yellow and double black; while a unique yellow self, viz., Horner's Buttercup, has taken the place of the historic Gorton's Stadtholder, a variety the origin of which probably dates back two centuries ago; and is now possibly quite lost to cultivation. One interesting figure towers aloft among Auricula raisers and cultivators, Ben Simonite of Sheffield, still at work and active for his years. Had he raised and circulated no other Auricula but green edge the Rev. F. D. Horner, he would have earned the enduring gratitude of every lover of this beautiful and fascinating flower. The centres of Auricula enterprise and activity vary almost every decade.

Under the head of "*Althæa rosea*" we find in the R.H.S. list the once popular Hollyhock. One's memory goes back to Charles Baron and Adam Paul, to the veteran William Chater, to Henry Roake, Bircham; the Rev. Edward Hawke (Lord Hawke), and his tussles with Chater at Bishop Auckland, and Edinburgh, Brighton, and elsewhere, with spikes the like of which are never seen in the present day; the brothers George and William Paul, Anthony Parsons, Black of Clewer, Bragg, Turner, and others. There were Hollyhocks in those days, and growers of great repute. I well remember the first appearance of the Hollyhock disease on the Royal Nursery, Slough, in 1855-56, when in one night a batch of seedling plants, just coming into bloom, were seared just as if a firebrand had been dragged through them, and the subsequent rotting of cuttings and eyes by the hundred.

At that time William Chater was in the very zenith of his fame, and his collection was unrivalled for extent and quality. But no consideration of care, or culture, or fame, or attainment could stay the progress of the dread fungus; variety after variety disappeared for ever. I think the loss of so many grand flowers of his own production shortened William Chater's life. He fought the disease stoutly and persistently, but he could not overcome it. His successors at Saffron Walden, Messrs. Webb & Brand, and other growers are raising new varieties, and seeking to reinstate the flower in the popular esteem. The single form, which Charles Baron laboured so hard to convert into a double one, is, by the irony of fate, put forward in our day as a desirable garden plant; but the blossoms are too fleeting for modern requirements.

The Anemone, which more than a half-century ago the Rev. Joseph Tyso of Wallingford and his successor, Carey Tyso, did so much to improve and popularise, assisted by others, was then highly popular; collections of the finest types were eagerly sought after. The Ranunculus may also be mentioned in this relation; the floral publications of forty and fifty years ago give illustrations of superb and exquisitely marked forms. The Ranunculus has almost disappeared from gardens; even the Scarlet Turban, which was once so much grown in some market gardens for bunching for market, is now rarely seen. Anemones, both double and single, are glorious spring and early summer flowers in the garden; a leading strain is that known as St. Brigid's, misspelled St. Bridget's in the society's list of certificated plants. The late flowering Japanese type has received some valuable additions of late years, which culminated in the large and showy semi-double Mont Rose of a few weeks since.

Shortly before the formation of the Floral Committee of the R.H.S. a Mr. John Riley of Huddersfield was busily engaged in improving the homely Snapdragon (*Antirrhinum*). The December number of "*The Florist and Garden Miscellany*" for 1848 gives a coloured illustration of two of Mr. Riley's improvements. A visitor to Mr. Riley's garden in 1847 has left on record his impression of the Huddersfield Snapdragons, and it reads like a passage from a romance when he says: "It may give some idea of the size of the individual plants to state that one specimen, the largest, but still not very much above the average, measured 7 feet high, and 4 feet 2 inches in diameter." One of the varieties figured, named *sulphurea elegans*, is a pretty striped form, probably a remote progenitor of the very fine striped flowers of the present day. The latest award made to a named *Antirrhinum* by the R.H.S. was in 1892 to a striped variety named George Findlay. The Scottish florists have done wonders with the *Antirrhinum*. Seed strains are now so fine that the naming of special varieties is only rarely followed.

The *Aquilegia* (Columbine) has undergone striking transformations during the past thirty years. Mr. James Douglas, as early as the seventies, raised hybrids of *A. cœrulea* and *A. californica*. As far back as 1860 *A. vulgaris caryophylloides* obtained from the R.H.S. a commendation for Messrs. Carter & Co. It was a charming striped form, but proved of uncertain development. The hybrids of *A. cœrulea* improved by selection are now popular garden plants. The yellow and white forms of *A. chrysantha* are much grown for cutting purposes.—R. DEAN.

Hardy Flowers in November.

WE have this season been among the unfortunates whose doom it was to hope against hope for an improvement in the weather, but who have had, instead, to content ourselves as best we might with wind and rain; with swift wreck and decay instead of that slow and pathetically beautiful death which comes to our flowers with some Novembers. In such our grief is deprived of its deepest pang by the knowledge that our favourites have fulfilled their purpose and have passed away in due time. Otherwise is it when, as of late, they are ruined by wind and rain ere they can expand their blooms, or, at least, before they had fully displayed their charms. There have been many flowers this autumn which, like Herrick's "pale Primroses," have "died unmarried" ere they could behold "Phœbus in his strength."

First among these one would put the autumn Crocuses, whose delicate beauty should place them in the forefront of our dwarfest autumn flowers. Their fate has been mournful as a whole, and they were fortunate who could shelter them with glass from the wind and rain. Yet one's garden does not gain in beauty when it is disfigured with a phalanx of glasses, such as would be needed to cover a collection equal to mine—and I know of a few larger still—so that most of my Crocuses have now to take the weather as it comes. Thus they give one less satisfaction than is their wont. Yet, for all that, they are attractive in bud or in bloom, and a single day, or even an hour or two of their beauty in perfection, is sufficient to atone for much disappointment. The glorious *Crocus speciosus* has long departed. So have a good many more, yet if we look out, or, better still, seek for them by the garden's paths, we shall find enough yet to gladden us with no grudging joy. As one sits at the desk one can see some little minarets of several hues. First in sight come two varieties of the little *C. asturicus*, from sunny Spain, and from that province, remembered in its name, which remained unsubdued by the Saracens. It is variable in its colouring, and the two forms now in bloom here are respectively lilac and deep purple.

Almost "cheek by jowl" with it, though there was no design in so planting them, is *Crocus serotinus*, one of my most recent acquisitions, and one with which I am much pleased. It is appropriately placed besides *C. asturicus*, though fortuitously, seeing that they are not only both Spanish species, but are also said by our great authority to be nearly allied. Its flowers are distinct enough with their lilac, glabrous throat and their bright purple segments, with their feathered lines of a deeper tint. Further on, and just out of sight from where I sit, there is one of the several clumps of the sweet-odoured *C. longiflorus*, so beautiful in fine weather as to compel one's highest praise. To-day many of the flowers are disfigured by rain and overthrown by wind, yet we cannot pass them by unadmirably, but must pause to study the shapely lilac flowers with their yellow tubes. A charming little form of this *Crocus* is the variety *Wilhelmi*, now in bloom as well as the type. One might speak awhile longer of these flowers and the beauties they and the others of the genus yet in bloom possess; but one must, if only briefly, turn to other flowers.

We look to the Asters, or Starworts, as plants likely to give us flowers at this time, whatever else may fail, but even they, or the greater number of them at least, are disappointing, so heavy have been the rains and so boisterous the winds. The fine *A. grandiflorus*, which likes frost worse than many, has not been so much a sufferer as in autumns when we have had earlier frosts. There is often some compensation in our troubles, and it is certainly one to be in possession of the fine violet flowers of this noble Starwort. Then, among a few others, we have the charming small-flowered *A. diffusus horizontalis*, with its beautiful branching sprays of white flowers with their red centres. One of the hardiest, I have, some years, had it in bloom in a shady place, at Christmastide, and some once or twice at New Year's Day. Then we still have flowers on one or two of the *novæ-angliæ* group, besides those of *A. Tradescanti* and a few remaining upon various others. It seems strange to read in the *Journal* of fine weather in the south when we have had to deplore flowers battered and beaten by constant rains which even these Starworts could hardly withstand.

Sheltered somewhat from the storms, late as it is, *Tropæolum tuberosum* yet gives a few of its scarlet and yellow flowers, while late sown plants of the annual *T. Lobbianum* yet climb up their trellis. Now, too, we see "the patient beauty of the scentless Rose," which still struggles to give its incomparable loveliness. There are yet big masses of *Hydrangeas* in gardens near by, though one's own, more exposed to the wind, have lost their beauty. Elsewhere in the garden amid the wreckage of the summer's glories, a few other flowers shine, their beauty remaining though sadly dimmed. One still has hope, not without some warrant from the outlook, that things will mend, and that before hard frost comes we may have a few brighter days to enjoy what are left to us.—S. ARNOTT.

Two Great Aids in Profitable Culture.

THE old proverb tells us we must cut our coat according to our cloth. Much as we think of these little islands of ours, they only form a small part of the inhabited globe. They are, perhaps, with all their faults, the most desirable spot on earth wherein to live; no scorching, burning suns in summer, no long night of Arctic winter, no excessive drought, no tempestuous flood, no great emergencies arise, and we are seldom driven much out of the beaten path. Truly, we do have exceptional seasons occasionally, which bother us mightily, but they are mere deviations from the sober, temperate mean.

Taking the country (Great Britain) generally, we may say we suffer more perhaps from lack of sunshine than from drought. Our periods of drought certainly have been more frequent during the last ten years, but we are looking back far further than that time. How we are to get more sunshine is a difficulty for which we can suggest no remedy; we have to take what we can get and be thankful. Then, again, the reader may observe, is there any known remedy to combat drought? We certainly cannot command the rain clouds, but we are blessed with great supplies of water below the clouds, and the question is, Do we utilise these stores to the best advantage?

We can all perceive the ill result of a long drought, but few of us have any idea how very much water plant life will absorb. Analyse any fruit, vegetable, or grain grown, and the immense percentage of water will astonish the unthinking mind. During the later summer months we call to mind the saying respecting the christening of the little Apples on St. Swithin's day. Most certainly, unless there be rain on or about that date the little Apples keep little, succumb to grub, and drop off, or ripen prematurely. Too much rain makes the Strawberry bed into a pulpy mess, and the Raspberries ungatherable; still, in some districts these fruits fail year after year for want of the necessary moisture.

As many of us know, North America has immense tracts of very dry land where the rainfall is merely superficial, and where to produce anything at all well recourse must be had to artificial watering, which we all know is a very tedious business with pail or can, even when water can be led straight up into the garden or fruit plantation. But the Americans have adopted the plan of artificial irrigation which is not, wonderful to say, an original idea, but as old as the very hills. So far the principle has been applied to small areas. In some cases river water is diverted, in others storm water stored, in others spring water drawn, and again in others liquid sewage applied. Happily, here we have not to deal with wide tracts of arid sand, moisture is pretty equally distributed; but there are districts even in this humid climate (eastern counties) where the rainfall often falls far short of the needs of the crops.

Drought years and rainy seasons seem to come in cycles. If we knew what to expect it would probably be worth while to devise some means of combating drought. There are many acres of light sandy land that have been immensely improved by good cultivation, and there is no doubt that a cheap and easy mode of irrigation would be of the utmost value. We once knew a farmer who had a field of Clover, bounded on one side by a celebrated trout stream. The season was very dry, the Clover in great need, and we grieve to say this man so far forgot himself as to cut an aperture in the bank, making with stones a barrier to prevent the exodus of the trout. By the time the stream watcher was down upon him he had got enough water to insure a good Clover crop. On the outskirts of Paris may be found rich and fertile gardens, in which all manner of fruits and vegetables abound, even to Watercress. The land is the sandy gravelly banks of the Seine; the rich fruitfulness is the outcome of irrigation, sewage water being the active agent. These gardens answer two ends; they provide wholesome food, and render innoxious what otherwise would be liquid poison. Gross-growing crops, such as Potatoes, Turnips, Mangolds, and Cabbages, will do well on land that receives only winter irrigation. Coming to orchard trees, what a boon a thorough soaking would often be! We have much fault to find with many orchards, when we see the grass allowed to grow right up to the very stems of the trees. If that were cleared away in a circle, and a good supply of either sewage or pure water applied at a critical time, how much better chance would there be of fine fruit. A dry season generally means superabundant sunshine. If there is moisture as well as sunshine the thing is done.

We think facts have thoroughly disproved the idea once so prevalent that sewage irrigation made unhealthy vegetable growths. Is it not close on two years since the great pastures of Craigentiny, near Edinburgh, were first treated to sewage, and the grass from those meadows has fed all the milk producers of that large city? In Milan the same thing has been going on for 200 years with no ill result. The milk of the sewage-grass-fed cows has been tested side by side with that of cows fed on other material, and in no case has it been found that the sewage cows' milk developed any taint or went wrong

before that of the other cows on trial. More than that, it was amply proved that the vetch-fed cows produced milk which went wrong the more quickly.

Not only is it the actual moisture that is so necessary to plant life, but in many waters are found held in suspension such valuable substances as potassium sulphate, phosphoric acid and nitrogen. Imagine the effect of this application to coarse sandy soils. We have systems of irrigation here of old establishment, the water meadows and the warping. This latter prepares the soil for arable cultivation, and the improvement has to be seen to be believed. We talked of two useful aids to cultivation, our space is filled, and we have only lightly touched on one. The other, ventilation of the soil, must be held over for the time being.—F.

Palms from Seeds.

IN the raising of any plant from seed the first essential is to procure seed which is good and fresh. Though this may look like a stereotyped observation it is nevertheless necessary, as, in the first place, Palm seed is by no means a cheap commodity, and if it fails to germinate it means considerable loss. In the second place, some of the species, being slow to germinate, would be occupying valuable space for months that might be utilised for growing something else. I would suggest to anyone about to commence to arrange with some reliable seedsman to send seeds of the different Palms as these arrive (which they do at different times, usually somewhere from October to April), and plant the seeds as soon as they come to hand. We prefer to use pans, but have also succeeded well with boxes. Either should be about 4 inches in depth, to allow of liberal drainage, and about 2½ inches of soil. A compost of equal parts of good loam, peat, and sharp sand (and finely sifted), with the addition of charcoal, will suit almost any of the Palms. After ample drainage material has been placed in the bottom, cover with about 2 inches of soil, pressing this moderately firm. Sow the seeds rather thickly.

The depth of covering must be regulated by the size of the seed. To cover to about its own depth is a fairly safe rule. Press the soil evenly and firmly. The situation just after sowing is not a matter of great importance so long as a suitable temperature can be maintained. This should not be less than 75°. An ideal place would be a bench with bottom heat, but if the bench is needed for anything else the seed will start just as well placed under the benches, if, as soon as the growths begin to show, the seedlings are removed to lighter quarters. But care should be taken to have some arrangements made to insure against the drip from other plants getting into the boxes. These boxes should not be set directly on the floor; it is better to have them raised a little to allow of a free passage of air, and insure the uniform drying of the soil. Close attention and good judgment are required in the matter of watering, as either extreme is very apt to result in the loss of the seed should it occur during the early stages of growth.

The time required for germination varies considerably with the different species. *Latania borbonica* is about the quickest. Given fresh seeds and all conditions suitable, it will take from three to four weeks to germinate. *Cocos Weddeliana* is about the slowest, taking some two to three months.

Potting should not be done until after the second leaf is developed. Palms at no stage of their growth will do well if over-potted, so it is better to start with as small a pot as possible—one just large enough to conveniently contain the roots being best. Ample drainage must not be neglected. A soil similar to that used for sowing the seeds in will be found suitable for the first potting, but for subsequent pottings a rather heavier soil is better. Less peat and sand had therefore better be used. Once well under growth the temperature can be reduced to not less than 65° at night when fire is employed, allowing a rise of from 15° to 20° by sun heat. Keep the atmosphere moderately moist, and syringe freely during bright weather to keep the plants free from insects. Shading from strong sunlight is necessary, also all the air that can judiciously be given, to keep the growth strong and prevent drawing.

I would not, writes "Scotia" in the "Florists' Exchange," advise beginners to go into growing the choicer varieties of Palms until one has gained a little experience with the hardier and easier handled kinds, such as *Latania borbonica*, *Kentia Fosteriana*, and *Kentia Belmoreana*. These, especially the latter two, will always find a ready market. *Areca lutescens* might also be included, being of comparatively easy culture, and usually a good seller. *Cocos Weddeliana* is a pretty little Palm, but one of the hardest to grow, and where its cultivation is attempted I would advise planting the seed in small pots at once, as the plant makes a long tap root, which is apt to be broken in potting from a pan or box. The pots can be plunged close together in flats to make them easier handled. Most of the varieties of *Phoenix* are of easy culture and hardy, but the demand for them is always more or less limited.

Adam's Needle.

No more useful or stately hardy exotic plants have been introduced into Europe from America than some of the Yuccas, and most familiar among which is the majestic *Y. gloriosa*. This came to us upwards of 300 years ago from either Florida or North Carolina. The accompanying illustration is from a photograph, taken in July last, of a specimen planted about five years ago upon nearly the highest point in the Nettlefold rock garden in the Botanical Gardens, Edgbaston, Birmingham, and where, chiefly by reason of its prominent position, the plant with its noble panicle of creamy white bell-shaped flowers, was an object of great attraction to the visitors for several weeks; the total weight of the plant and flower stem exceeded 8 feet. The writer once saw some magnificent specimens of *Y. gloriosa* in the Isle of Wight, and one especially near Ryde of gigantic proportions, as it was upwards of 20 feet in circumference round the projecting heads of leaves protruding from a massive Y-shaped main stem and bearing upwards of a dozen panicles of flowers.

A fitting compeer is *Y. recurva* with its elegantly reflexed foliage, and which specially renders it adapted for vases as well as for planting singly or in groups on lawns and other suitable sites. It was introduced from Georgia in 1794, and is supposed to be a variety of *Y. gloriosa*. The spikes of the former are, however, more branched than in the latter, and the flowers are greenish white otherwise there is comparatively little difference between them. Yuccas, like Aloes and Agaves, do not blossom at any stated size or age, being controlled by circumstances pertaining to situation and temperature. Even when growing in a group under the same conditions they do not flower simultaneously.

This is obviously an advantage, as it goes far towards insuring the probability of a yearly display.

Another commonly grown and desirable species is the Thread-leaved Adam's needle (*Y. filamentosa*), introduced from Virginia in 1675, the thread-like filaments on the edge of the leaves making it additionally interesting, though somewhat untidy in appearance. Its dwarf habit renders it suitable as an edging to a group of the larger growing species when planted in groups, also for bold and rugged rockeries, and grown in a suitable soil and position its bold spikes of flowers will attain to a height of from 3 feet to 6 feet. The golden variegated-leaved variety of *filamentosa*, introduced from Virginia in 1816, is a handsome and very ornamental plant, but unless in a warm and sheltered position out of doors it requires greenhouse treatment, especially in the winter season.

One of the best species of the genus is *Y. aloifolia pendula*. It

grows about 6 feet high, and is a noble plant, bearing a magnificent spike of flowers, and is well suited for town gardens and large vases in forecourts; it is also a free flowerer and an effective lawn plant. Its prototype, *Y. aloifolia*, is somewhat tender, and is usually grown in cool conservatories. In sheltered and otherwise favourable sites, however, it will thrive out of doors and live through the winter. As a decorative plant for halls and warm rooms it is specially adapted, and will bear the heat and confined atmosphere with impunity, equally as well, in fact, as *Aspidistras lurida* and *variegata*. The chief requisites for assisting in maintaining the plants in health are plenty of water at the root and sponging the leaves.

Considering the unique and ornamental character of several other

species of Yuccas, it is somewhat surprising that they are not more grown, and if planted freely in groups in suitable positions would, in association with other evergreen plants and shrubs, afford an additional picturesque effect to the garden landscape. Mention should also be made of *Y. acuminata* (known as the Spanish Bayonet Plant), with formidable sharp pointed leaves; it, too, is hardy, but is not much grown in this country.

There are several methods for increasing the stock of Yuccas. Plants from seeds do not grow so quickly as from cuttings; moreover, seeds are somewhat difficult to obtain, and, in fact, it is said that ripened seed has not yet been obtained in this country out of doors. The arborescent-like species can be propagated by cuttings and offsets, and, to secure what may be called a ready made plant, select a branch from an old plant furnished with several branches, and make an incision about half an inch deep round a portion of the stem, tying a quantity of damp moss round the stem. The edge of the upper portion will quickly callus and emit roots into the moss, and the top may eventually be cut off and in-



FIG. 126.—YUCCA GLORIOSA.

serted in a pot or planted in the ground. Another mode is by offshoots from the stem of an old plant. It will be observed that, as in the case of some other kinds of plants, the stems of the Yuccas are formed by the annual decaying of the lower leaves, leaving a scar-like protuberance; if one of these swellings or embryo buds be cut off and treated as a cutting it will quickly form a plant. These, however, will not develop on the plant unless the top be removed. Some of the species may be propagated by root cuttings placed in a heated medium in pots or otherwise, also from suckers.

Regarding the commercial or economical attributes of some of the Yuccas, it is said that the leaves, treated similarly to hemp and flax, afford a fibre which may be used in the manufacture of coarse cloth and cordage, and the macerated stems deposit a feculent matter, from which starch may be obtained. At Carthagena a starch or glue of this kind is made from the stem of *Yucca gloriosa*.—WILLIAM GARDINER.

NOTES

& NOTICES



Recent Weather in London.—The weather on Sunday and Monday was much cooler—in fact, the air was decidedly frosty. On Tuesday afternoon rain fell heavily, as did it again during the night. Wednesday opened dull and wet, and there was every indication of a soaking day.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, December 4th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. A lecture on "The Heating and Ventilation of Glass Houses" will be given by Mr. A. Donald Mackenzie at 3 o'clock.

Australian Crops.—Splendid rains have fallen over a large portion of New South Wales. The Minister of Agriculture says that the downpour has saved the crops in several districts and largely improved the prospects of the Wheat yield and the harvest generally. A Melbourne telegram reports that general rains have fallen throughout Victoria, and will be beneficial to the crops.

Gardening Appointments.—Mr. McKellar, late head gardener to Viscount Ashbrook, Askbrook Castle, Durrow, Queen's County, has been appointed in a similar capacity to J. Jameson, Esq., St. Marnock's, Portmarnock, Malahide, co. Dublin. Mr. H. Hume, late head gardener to Mrs. Gibson Black, Blackheath, Clontarf, has been appointed head gardener to R. J. Beamish, Esq., Queenstown, co. Cork. His brother, Mr. S. Hume, succeeds him at Blackheath.

Death of Mr. Alex. K. McLeod.—We learn with deep regret of the death on Monday, November 19th, of Mr. A. K. McLeod, brother of Mr. J. F. McLeod, of Dover House. The deceased was apprenticed under the late Mr. Peter Fairgrieve at Dunkeld Castle, Perthshire, and afterwards went to Cardiff Castle. Owing to the results of an illness he was compelled to relinquish a gardening career, and until his untimely death held a position in Glasgow under the Clyde Trust.

Leafy Trafalgar Square.—Trees and flowers in Trafalgar Square—it is a delightful idea. In place of the dingy asphalt, which at present surrounds the monument to England's great naval hero, it is proposed to plant trees and dig flower beds, with pleasant paths round the fountains. And then, with some improvements to the neighbouring buildings, the square may be made really worthy of its grand central position. It is for the Office of Works to take up the suggestion and carry it out.

Royal Horticultural Society—The Chairmanship of the Fruit Committee.—It is with feelings of profound pain I hear that because of severe and distressing illness, in which I am sure Mr. Philip Crowley has the warm sympathy of a wide circle of friends, and especially of his long time colleagues on the Fruit Committee, that estimable gentleman has been compelled to resign from his posts of treasurer of the society and chairman of the Fruit Committee. Mr. Crowley has, during the many years he has presided over the latter body, been ever genial, kindly, impartial, and far above even the most trifling of personal considerations. It has been one of the great privileges of the Fruit and Floral Committees that they have been presided over by gentlemen who, being entirely outside of any trade associations, have always been free from animus, bias, or pecuniary considerations. It is so easy to understand how rapid may be the descent of these bodies in public esteem were they in the least dominated by trade considerations or interests. Certainly there are plenty of honourable men amongst traders, but still it is so much better to avoid even the appearance of trade interest. In the provinces now generally, for exceptions are rare, the acts of the committees command confidence. It is not possible that such can be the case if the chairman of either body, let him be ever so able and honourable, be a trader. Most emphatically will the society lose caste in the country if the committees, the work of which is so closely allied to horticultural trading, in the sense that every award made means tangible value added to any trade product, if the public think that these bodies have become trading preserves. For these and other reasons I most strongly hope that when our so greatly esteemed ex-chairman's post is filled, it will be by some gentleman who is a real amateur horticulturist.—A. DEAN.

The Neill Prize.—The council of the Royal Caledonian Horticultural Society on November 15th awarded the Neill prize, which was instituted to honour distinguished botanists or cultivators, to Mr. Malcolm McIntyre, gardener to Sir Charles Tennant, Bart., of The Glen, Innerleithen, Peeblesshire, who has long been known as one of the leading cultivators north of the Tweed.

Not a General Utility Man.—A gentleman at Oldham engaged a gardener who was to do "odd jobs," and one day he was called into the house to blacklead the kitchen grate. This he declined to do, and was dismissed at a moment's notice. He claimed a month's wages in lieu of notice. The judge very properly remarked that housemaid's work did not come under "odd jobs," and they might as well have asked him to make the beds. One week's salary and expenses allowed. What is the profession coming to?

County of Monmouth Farm School.—Her Majesty's Inspector makes the following gratifying report on the efficiency of the industrial training:—This has received favourable notice in previous years, and keeps well up to its high standard. In addition to the ordinary work of a farm and market garden, which is thoroughly taught, the care expended over pasture experiments, grafting, and the greenhouse, affords work of a special importance educationally. The whole value of the scheme of practical and theoretical training is enhanced by the lectures and demonstrations given by Mr. Grant on behalf of the County Council, and his friendly interest in the boys and their work.

In the Markets.—A walk through Covent Garden occasionally would have a stimulating effect on the culinary and decorative art of most housekeepers. Just at present there is a fine display of leaves of all kinds, brilliant with all the rich hues of their autumnal colouring, and a bewildering profusion of Chrysanthemums, Lilies of the Valley, and Violets, at such prices as to put them within the reach of the humblest artisan's wife, to say nothing of more costly flowers. In the vegetable market, Cabbages, Savoy, Brussels Sprouts, and Celery continue abundant, of excellent quality, and cheap; as are also Turnips, Carrots, and Artichokes. Endive and Lettuce are still to be had, though rather dear. Sweet Potatoes can be bought about 3d. per pound, and Chow Chows 3d. each. There is a plethora of American Apples. Very sweet Pippins have come in from Oregon. Oranges are much cheaper. Doyenné du Comice Pears may still be had at 4d. each, and very fair Duchesse Pears at 3d. Grapes are very cheap and abundant.

Royal Horticultural Society—Scientific Committee.—November 20th.—Present: A. D. Michael, Esq. (in the chair), and Messrs. Veitch, Rev. W. Wilks, A. Sutton, J. Hudson, and Dr. Masters. *Oak leaves.*—Rev. W. Wilks showed additional specimens illustrating the great diversity in the lobing of the leaves. One specimen was pectinate, like the frond of a *Blechnum*. *Dimorphic Orchid.*—Mr. Harry J. Veitch showed a spike bearing flowers like those of *Odontoglossum crispum* above, and blooms of *O. Wilckeanum* beneath. The specimen came from Mrs. Briggs-Bury, Bank House, Accrington. The inference is that the twofold character is due to the dissociation of hybrid characters. The plant was referred by Mr. Rolfe to *Odontoglossum Denisonæ*. *Diseased Peas from Broughty Ferry.*—Dr. William Smith reported that "the specimens sent were attacked by the Pea-mildew, which showed as a white mould on all parts; later, after the materials dried up, numerous black winter fruits of the *Erysiphe* group of fungi confirmed the earlier observations. The species is probably *Erysiphe Martii*, Lev., although an almost similar species is also said to attack Peas. In the summer of 1899 I found the same disease, accompanied by the same fungus, on garden Peas in the Lothians, near Edinburgh. Flowers of sulphur, thoroughly dusted on with a sulphur puff or bellows, would check it. Spraying with Bordeaux mixture would be more effective, but the low value of the crop raises the question whether it would pay to spray the plants several times each season." It was stated that in some districts the cultivation of late varieties was given up owing to the excessive prevalence of mildew. *Fruits of Pyrus japonica.*—Mr. Divers brought from the Duke of Rutland's gardens, at Belvoir, fruits of this species. Mr. Hudson remarked that they made very good jelly. Dr. Masters said that the fruits of *P. Maulei* were even better for that purpose. *Pea with a double plumule.*—Mr. Cuthbertson sent a germinating Pea in which there were two cotyledons and a radicle, as usual, but the plumule, instead of being single, was double. Whether that doubling arose from the formation of two distinct plumules or from the branching of one, was not obvious. Dr. Masters showed a drawing illustrative of the peculiarity, upon which he made some comments.

Secretaries of All Gardening Mutual Improvement Societies are requested to send address and title of their organisations to the Editor of the *Journal of Horticulture* at 12, Mitre Court Chambers, Fleet Street, London, for insertion in the coming edition of the "Horticultural Directory," which is published at the beginning of December.

Rothsay Horticultural Society.—We are informed that the name of the Bute National Rose and Horticultural Society has been altered to Rothsay Horticultural Society, and the secretary's address, Mr. R. Smith, 1, Lilyoak Terrace, Rothsay.

Cressington Chrysanthemum Show.—Fortunate indeed is the Cressington committee in having in the immediate neighbourhood a gentleman so eminently proud of his garden and everything connected with horticulture as Samuel Lloyd, Esq., and who further showed his interest in the village by giving a first prize of £5 for twelve blooms each incurved and Japanese. The successful Liverpool grower, Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., The Lawn, Aigburth, easily secured the prize with a very handsome stand. Mr. Young, gardener to T. G. Williamson, Esq., Otterspool House, had many good flowers in his second prize stand. Mr. Heaton was again superior in the class for nine incurved and nine Japanese, the flowers being equally good. Mr. Barber, gardener to Walter Holland, Esq., Carnatic Hall, Mossley Hill, won with six incurved and six Japanese. For six Japanese, distinct, Samuel Lloyd, Esq., Newhaven, Aigburth, came out an easy winner with choice blooms. The groups contained many bright coloured flowers, Mr. G. Leadbeater, gardener to W. J. Davey, Esq., Holmleigh, was first, Mr. F. Keighley, gardener to Mrs. Duncan, Prizett, Grassendale, following. Mr. Evans, the chairman, Mr. Johnson, secretary, and the staging committee, did their work in the most admirable manner.

Liverpool National Amateur Gardeners.—The recent meeting at Hackins Hey was marked by many improved features, the first being the advance in the cut blooms, which were a great credit to the growers. Mr. D. W. Cangle won the first prize for twelve Japanese, also for six incurved. For six Japanese, and for the display of cut blooms for the president's prize, Mr. Butcher staged handsomely. Mr. Arthur Dale gained a special prize for a plant in pot, and second for Japanese. Mr. Guy carried the hand bouquet prize, Miss Hunter being a close second. The president's prize for a plant in bloom went to Mr. Arthur Dodd for a well-flowered *Cattleya labiata autumnalis*, and it certainly reflected great praise on account of Mr. Dodd having only recently taken up Orchid culture. Miss Hunter, Miss Davies, and Mr. Histed were also notable winners. In the lecture room Mr. A. W. Ardran presided over a somewhat large attendance, and briefly introduced Mr. W. S. Laverock, M.A., B.Sc., who gave a highly interesting lecture on "The Life History of a Fern," dealing with raising from spores, the audience following the beautiful limelight views with close attention. Altogether the past season has been one of the most successful, which may be attributed to the untiring energy of the president, Mr. A. W. Ardran, and the valuable work of the secretary, Mr. J. D. MacGregor. A social evening is in store for next month.

Royal Meteorological Society.—The opening meeting of this society for the present session was held on Wednesday evening, the 21st inst., at the Institution of Civil Engineers, Great George Street, Westminster, Dr. C. Theodore Williams, president, in the chair. A communication was read from the International Meteorological Committee, inviting observations of the form, amount, and direction of the clouds on the first Thursday of each month during 1901, as well as on the preceding and following days. These observations are to be made in connection with the balloon ascents, which will be carried out under the direction of the Aerostation Committee. Mr. R. H. Curtis exhibited an improved mounting for the lens and bowl of the Campbell-Stokes sunshine recorder, by means of which the glass ball can be quickly and accurately placed centrally in the bowl, where it is secured by clamping screws. Mr. W. H. Dines read a brief paper on the "Weekly Death Rate and Temperature Curves, 1890-99." Mr. H. Mellish also read a paper on the "Seasonable Rainfall of the British Islands." After referring to what had already been written on the subject by others, he proceeded to discuss the data contained in the "Tables of Rainfall, 1866-90," published by the Meteorological Council. He concluded by saying that as regards the relation between the amount which falls in the wettest and the driest month at any station, it seems to be generally the case that the range is larger for wet stations than for dry ones.

Reading Gardeners' Association.—"Wall Fruit Trees" formed the subject of a paper read by Mr. T. Turton, of Sherborne Castle Gardens, Dorset, at the fortnightly meeting of the Reading Gardeners' Association, and as Mr. Turton was one of the originators of the society, it is needless to say the attendance was very large. The paper given was an exceedingly practical one touching upon Apricots, Peaches, Nectarines, Pears, Plums, Cherries, Currants, and Gooseberries; also soil, situation, training, and pruning. An interesting discussion followed in which the following took part:—Messrs. Stanton, Hinton, Neve, Powell, Lees, Chamberlain, Exler, Townsend, Turner, Alexander, Baskett, and Lever. A hearty vote of thanks was accorded Mr. Turton for his paper. The exhibits were not so numerous as usual, but were of excellent quality, viz., a large heap of Sutton's Selected Ailsa Craig Onion, each of the thirty bulbs staged being typical of this noted variety. Mr. Stanton, of Park Place Gardens, showed a basket of Coe's Golden Drop and Blue Impératrice Plums. Two new members were elected.

Beckenham Horticultural Society.—On Friday evening, November 23rd, a lecture on "Ferns and Fern Culture" was delivered to this society by Mr. A. Hemsley, foreman at Mr. H. J. Jones' Ryecroft Nursery. Propagation by spores was first treated, while other modes of propagation peculiar to certain varieties were explained—*Adiantum Farleyense* to wit. If a stock of young plants are required, take a healthy young specimen and pull it into single crowns; these put into suitable soil (loam, leaf soil, sand, and sphagnum) warmth and moisture soon make nice plants. In referring to shading green was condemned *in toto*; "always use white," said Mr. Hemsley. Potting soil and manuring received attention. A period of rest is as beneficial to Ferns as to other plants; a reduction of temperature and water, following which they start with renewed vigour. A hearty vote of thanks was accorded Mr. Hemsley for his practical and instructive lecture, also to Mr. Horlock who so ably conducted the meeting. Messrs. Peed & Son contributed a collection, of well-grown choice Ferns, some half-specimen size; also Orchids both plants and cut flowers, many varieties of *Cypripediums* (some seedlings) and *Cattleyas* being represented.—T. C.

Woolton Chrysanthemum.—At this show there were double the number of entries over the previous occasion. We can only give a summary of the results. J. Huddleston, Esq., presented a silver cup for twenty-four Japanese, distinct, and a smart fight ensued between Mr. J. Wynne, gardener to Stewart H. Brown, Esq., Allerton, and Mr. G. Haigh, gardener to Sir W. H. Tate, Bart., Highfield, Woolton, each stand containing magnificent flowers, Mr. Wynne securing the honour. For eighteen Japanese, distinct, Mr. Haigh achieved a conspicuous success, also for twelve incurved. A noted grower of incurved, Mr. Vaghan, gardener to T. Brocklebank, Esq., The Hollies, Woolton, gained the honours for eighteen and six incurved, with flowers of first-class type, Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton, gaining the miscellaneous. Table decorations were beautiful. Mr. Stoney won with grand large flowering, whilst Mr. W. Wilson, gardener to H. Cunningham, Esq., Gateacre, was unapproachable in trained plants. Mr. Stoney, Mr. Haigh, and Mr. Carling gave of their best in other classes, the fruit, vegetables, and roots being of the highest quality.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
November.										
Sunday.. 18	N.N.E.	deg. 43.8	deg. 40.2	deg. 49.0	deg. 40.6	ins. —	deg. 45.7	deg. 49.1	deg. 51.9	deg. 35.9
Monday.. 19	N.N.E.	41.9	37.9	45.0	39.0	—	44.9	48.9	51.7	33.8
Tuesday 20	N.N.E.	42.4	40.8	45.0	37.6	—	44.2	48.2	51.5	32.5
Wed'sday 21	N.N.E.	43.1	41.9	45.8	40.6	—	44.8	48.1	51.3	35.6
Thursday 22	N.N.W.	42.0	40.8	45.8	41.9	—	45.2	48.1	51.2	39.2
Friday .. 23	S.S.E.	33.2	32.4	49.7	29.5	—	43.6	47.9	50.9	22.0
Saturday 24	S.S.E.	42.9	41.0	49.4	30.7	0.29	42.3	47.3	50.7	24.6
MEANS ..		41.3	39.3	47.1	37.1	Total 0.29	44.4	48.2	51.3	31.9

The weather during the week has been dry and dull, with cold winds, mostly from the N.E.



Manures and Leguminous Plants.

I AM quite aware that I am bearding a lion when I venture to contest anything which comes from Mr. J. J. Willis, but I cannot accept as correct his assertion in the article on plant elements (page 457) that the action of farmyard manure in plant feeding is slow. I think every gardener will hold that with the exception of manures in liquid form no manure is more active or speedily utilised by plants than is good animal—i.e., farmyard—manure. Possibly I may be scientifically wrong, yet mechanically or practically right, for the two things are not always in harmony. Just in the same way scientists insist on the uselessness of giving nitrogenous manures to leguminous plants, notably Peas and Beans, but all experience shows that nitrogenously manured soils give the best growth and finest crops of these products. If anyone doubts that assertion let them grow breadths on well-manured (farmyard dressed) ground, and on unmanured ground, of Peas and Beans, and note the difference. All our best gardeners use animal manure liberally in dressing ground for these crops.—PRACTITIONER.

The R.H.S. Meetings for 1901.

I AM greatly pleased to find that in arranging the Drill Hall meetings for the ensuing year clashing with the great number of southern Chrysanthemum shows held in the first week of November is avoided. During the second week of November fewer shows around London are held, and those are usually of small dimensions. Thus, fixing the first November meeting for November 12th will avoid this confliction, yet should not be too late for the presentation of first-class blooms of seedling varieties. It is evident that the impress of the R.H.S. Floral Committee is yet eagerly sought for, and indeed its awards still stand as the highest in the kingdom. A very important change is made in the date of the Crystal Palace Fruit Show, which is fixed so late as October 10th, 11th, and 12th; that is fully a fortnight later than was the show this year. It is to be feared that it will ring the knell of soft fruits, Peaches, Nectarines, and Plums, for these were almost at their best—certainly Plums were—at the end of September this year, and this has been a rather late season.

Possibly it will suit fruit growers in the midland and northern districts, but experience of several years has shown by the truly superb quality of the fruit staged that the earlier date suits well. One wonders how far in so materially changing the date growers who exhibit have been consulted. Evidently there will be a summer meeting and conference—the subject, “Lilies”—at Chiswick. There will be a good deal of ink used over Lilies, no doubt, but the theme is at best a dull one. Lilies are all beautiful flowers, but they have little about them that is sentimental or romantic.—SCRUTATOR.

Gardens of the Ancients.

IN Mr. Henslow's interesting account of the gardens of the ancients I do not see mention of the garden of Alcinoüs. Homer's description of this is so beautiful and interesting that I send you a portion, always provided that you tolerate such an amount of mere poetry.

Four acres was the allotted space of ground,
Fenced with a green enclosure all around;
Tall thriving trees confessed the fruitful mould;
The reddening Apple ripens here to gold.
Here the blue Fig with luscious juice o'erflows,
With deeper red the full Pomegranate glows.
The branch here bends beneath the weighty Pear,
And verdant Olives flourish round the year.
Beds of all various herbs, for ever green,
In beauteous order terminate the scene.—(*Odyssey*.)

Herbs were greatly in request in those days because of their healing powers. They were always fighting, and wounds were always needing attention. A certain woman is highly spoken of in the “Iliad.”

She that all simples' healing virtues knew,
And every herb that drinks the morning dew.

As to flowers, Princess Nausicaa says that her father's garden, mentioned above, is full of them, but unfortunately does not give any names.

Here a rich juice the royal vineyard pours,
And there the garden yields a waste of flowers.

The flowers on the other side of the Mediterranean in Homer's time are rather more familiar, having place and name in Holy Scripture.—A. C.

Renovating Pear Trees.

OUR good friend “N. H. P.'s” note on “Pruning” at page 458 reminds me of a photograph of a thoroughly renovated Pear tree, with samples of fine fruit from the tree, placed not long since before the Fruit Committee. In that case, instead of cutting back all the horizontal branches close to the main erect stem, the operator had cut away first the second and third horizontal branches from the bottom of the tree on each side, leaving the lower ones. From these were taken up vertically stout summer shoots, 12 inches apart; as these grew other branches above were removed, the tree therefore not being at any time impoverished. Eventually, after a very few years, the vertical branches had displaced all the horizontal ones, and admirably refurnished the tree. So much was the committee impressed with the good work thus done in the matter of renovation, that a cultural commendation was unanimously awarded. Some others may like to do the same.—A. D.

Spade v. Fork.

IMPROVING the working of strong land has been for a number of years one of my main objects, and I consider the advice given in the *Journal of Horticulture* of November 8th, page 431, very practical, and certainly written by a thoroughly experienced hand. Mr. Shepherd's note, page 466, is certainly new teaching to me, in fact quite opposite to my way of working land, and when he says working his clayey soil with a fork is quite impossible, I cannot understand it. For my part I have never seen the strong land that I could not work better with a fork than spade. Why do we use the fork in preference? Is it not easier, and does it not leave the land lighter and better than it is possible to do with the spade? Of course, there is digging and digging, with either spade or fork, and there is a great difference in the way it is done. I have a great objection to it being dug flat, and like it kept fairly straight up, as it works so much better the following season, and I like the under side of the large lumps just opened with the fork, which comes very natural to a practical hand; as for the top, leave it as rough as possible.—T. WELCH.

Prize Cards at Exhibitions.

I CANNOT understand the reason why the exhibitors' cards after the adjudication has been completed should be allowed to remain blank side up during the show. It would take only a comparatively short time for one of the officials to go round after the judging is over and turn up every card bearing the name of the exhibitor. When only the number of the exhibitor was placed on each card, and only the name of the prizetakers were written upon them, this might, perhaps, have entailed much labour, but of late years it has become the custom to have the name of the exhibitor written or printed (the latter an infinitely better plan) on the cards. By adopting this simple system every exhibitor has the recognition to which he is justly entitled. For instance, many exhibits only fail by a point or two to secure awards, and by exposing the name of the exhibitor, he or she would have the opportunity of being credited with the work, and the visitor to perceive the comparative merits of the prize and non-prized exhibits, also render the exhibition far more interesting to the spectator. The plan advocated would also aid reporters, especially where non-prized exhibits are considered worthy of special notice.—W. G.

Weather and Commerce.—The fifth of a series of eight lectures on Australasian subjects was given on Monday night at the Imperial Institute, when Mr. Clement L. Wragge, F.R.G.S., Government Meteorologist of Queensland, discoursed on the weather bureau of that colony “in relation to the natural resources and commerce of Australasia.” Sir Horace Tozer, K.C.M.G., presided. Mr. Wragge said the work of the Queensland bureau was divided into two main parts—1, Climatology; 2, forecasting the weather. Every locality of Australia had its own particular climate, which had to be investigated in pastoral, agricultural, horticultural, and especially hygienic interests. A knowledge of the distribution of rainfall was also of the very first importance, and for the weather forecasts of his bureau he claimed that 90 to 95 per cent. had proved correct. Reference was made to the general formulæ with regard to isobars and gradients of the great anticyclonic and cyclonic disturbances and Antarctic V-shaped depressions that traversed the Southern Ocean. The lecture was excellently illustrated with numerous Australian subjects, and specimen weather charts were projected on the sheet, showing the conditions favourable for hot winds, “southerly busters,” transcontinental rains, and other subjects of Antipodean interest. An interesting account was given of the operations at the observatory on Mount Kosciuszko, in New South Wales, established in 1897. This is the highest point of Australia, 7328 feet above sea level, and the observatory is worked, under Mr. Wragge's charge, in connection with a low level station at Merimbula, near Twofold Bay.



Gooseberry Red Warrington.—Such a valuable bush fruit as this should be planted in every garden. It is valued most of all by us for its delicious ripe fruit, much of which is made into jam, and still more is eaten fresh picked from the bushes at almost every meal during the long time it continues good after it is ripe. Its robust growth is somewhat drooping, but by judicious pruning the bushes become sufficiently erect to keep the fruit from contact with the ground, and they soon become handsome in form, and so large that a single bush yields no inconsiderable quantity of fruit. Plant two or three rows of them side by side, so that the fruit may easily be protected from the ravages of birds, and you will have an abundant supply of late summer fruit, that is as much in demand as Strawberries are in their season.—L. E.

Rubus moluccanus.—Though popularly known as the Himalayan Blackberry, this species is not confined solely to the Himalayas, being found throughout Northern India and the Malay Peninsula. From a foliage point of view it is one of the most ornamental of the genus, the leaves being in shape very like those of *Vitis Coignetiae*, and 8 inches across. In addition to the size they are very prettily veined and serrated, and are intensely hairy, especially on the under surface. The flowers are pink, somewhat inconspicuous, and produced in short, dense, terminal racemes of twelve or more, from side shoots from last year's wood. The flowers are succeeded by dense clusters of large, black, roundish berries, of a somewhat insipid flavour. In places not visited by severe frosts it does well out of doors, and quickly attains a large size, shoots 20 to 30 feet long being made in one year. In the Himalayan house at Kew a large plant bears a number of clusters of fruit, and forms an object of great attraction to visitors.—D.

Anything from Peat.—For twelve years Herr Zschorher, of Vienna, has been investigating the properties of peat, with a view to making use of it in industrial processes; and the results obtained are astonishing. A building has been exhibited in which everything, from the carpets on the floor to the curtains on the windows and the paper on the walls, was made from peat. The fibres of the remains of the reeds and grasses of which peat is composed have, of course, their original physical and chemical characters changed; but the fibrous structure remains intact, and the fibres themselves are very durable, elastic and non-conductors of heat. Fabrics woven from them, says a writer in "Leisure Hour," are found to have the toughness of linen with the warmth of wool. There is no textile fabric that cannot be woven from these fibres. Blankets and other coverings used for horses and cattle have been found in use to excel in warmth and cleanliness. Paper of several qualities has been made, and the uses to which peat fibre has already been applied indicate possibilities that may render the peat bogs of Ireland a valuable addition to the resources of that country.

Fuchsia triphylla superba.—Under the above name, and also under the name of *F. triphylla* var. *hybrida*, a hybrid between *F. triphylla* and *F. boliviana* is sometimes seen in gardens. It was raised by M. Lemoine of Nancy a few years ago, and according to his catalogue the name heading this note is the correct one. Although neither of the parents can be considered an altogether satisfactory garden plant, the good qualities of both have been transmitted to the offspring with few of the shortcomings, and a very good garden plant is the result. In habit it assumes the bushiness of *triphylla* with more freedom of growth. The inflorescence and foliage are nearer those of the other parent, the leaves being almost as large, while the flowers are red and nearly 3 inches long, and produced in the same terminal, indefinite inflorescence of *boliviana*. To grow it well it should be given more heat when started in spring than is usually given to Fuchsias, otherwise flowers will be produced at the expense of growth. If kept growing without allowing any flowers until the end of May, bushy plants a foot or more high may be had which will flower throughout summer and autumn with the greatest freedom. A group of plants in the temperate house at Kew are at the present time full of flower, the same plants having been in blossom for nearly four months.—W. D.

Carnations in Pots.—The first essential for success is healthy cuttings, sturdy and strong. With weakly cuttings or growths from unhealthy plants it is almost impossible to produce satisfactory results. The next point is to allow no check to the plants in their early stages of growth, and especially must care be taken that they are not permitted to be root-bound in small pots before they are shifted into larger. The want of timely potting results in many failures. The plants ought to be shifted, always before the roots are matted, into 8 or 9-inch pots, or even larger, and be grown in frames during the early part of the season, and afterwards in the open air, great care being exercised in watering them. If the plants must be grown in small pots liquid manure is essential after the pots are filled with roots.—E. C.

Streptocarpus Fannini.—Of the many species of *Streptocarpus* in cultivation none has a better constitution than this Australian species. Many of the South African species flower well once and then gradually dwindle away, it becoming necessary to grow a fresh stock of plants from seeds each year. Others will flower for two or three seasons and then disappear, but the one under notice will keep growing and flowering for quite a number of years, provided it is divided occasionally. It can also be grown much cooler than many others, and thrives well in light and shade. It makes a mass of bright green leaves 9 to 15 inches long and 4 to 5 inches wide. The flowers are pale lilac, medium sized, and borne profusely on stems 9 to 15 inches high, the flowering season ranging from eight to ten weeks, commencing in July. For planting out in large houses it is an admirable plant, growing and flowering well in shade and making an excellent companion for *Begonia Rex* and Ferns. A mixture of peat and loam is the soil which suits them best.—R. G. K.

A Note on Mildew.—It is generally considered that mildew is the result of a peculiar state of the atmosphere. As regards vineries I am of opinion that a close moist atmosphere will produce mildew. I believe this from two cases which have come under my own observation. In both cases a close confined atmosphere started it, and when once the Vine mildew becomes established, there is the risk of its spreading through every vinery, and it may reach Vines also in other places in the vicinity of those affected. Proper ventilation of vineries is most important in order to prevent it. If it should make its appearance dust the bunches or the house with sulphur. Vine mildew is very different to the kind that affects the Rose and Peach tree, though no doubt the same kind of influences will generate either. Peach trees sometimes may only be affected in one or two cases in a garden, and the variety Royal George is a likely one to be affected. It may be considered singular how one Peach tree may be much affected with mildew and another beside it not touched. The probability is that the case would be different in a vinery, for as I have just noted, the mildew would go over the whole house. With Roses in pots in a Peach house I have observed that with want of ventilation the mildew soon makes its appearance, and curls up and whitens the leaves of the Rose plants when the Peaches are not affected. This shows that Roses are more liable to mildew under a close atmosphere than Peach trees, being affected with it in an atmosphere in which Peaches are exempt.—M. R.

Artemisia tridentata.—In many books dealing with life and scenes in the United States mention is sometimes made of this plant under the name of the Sage Bush, it being spoken of as covering the ground almost exclusively in some parts. More especially is this the case with those works which deal with the Western States, where it is often called hard names by those who have had to ride through its stiff unyielding stems. As an ornamental plant for the garden it is worthy of a place from its distinct habit and freedom of growth. It will grow practically anywhere and in any soil; if anything, it prefers a dry, sandy soil to any other. It forms with age a spreading bush 4 to 6 feet high, with thick woody stems, but is seen to the best advantage in a young state, and as cuttings are very easy to root, it is perhaps best to keep a young stock to replace old stools that get ragged. The leaves are 1 to 2 inches long, widening gradually from base to tip, where they are about a quarter of an inch wide, and ending in a twice-cleft blunt end. The leaves and young stems are covered with a dense white tomentum, which gives the plant a hoary appearance. The flowers are small, greenish yellow, and inconspicuous, borne in racemes about a foot long, which appear in June or July, but the flowers do not expand until September. The beauty of the plant lies, however, in its peculiarly shaped leaves and whitened appearance. If the flower stems are cut away as soon as they appear the plant is improved rather than otherwise by their absence.—C.



W. R. Church.

AMONGST the many splendid Japanese Chrysanthemums that have been exhibited and honoured with certificates by various societies during the present season W. R. Church must be accorded a foremost place. It has received an award of merit from the Royal Horticultural Society, first-class certificates from a dozen or more provincial societies, and the silver medal of the Edinburgh Exhibition for the best novelty in the show. Like C. J. Salter, which we reproduced on page 441, it is one of Mr. John Pockett's seedlings, and Messrs. Wells & Co., Ltd., Earlswood Nurseries, Redhill, are distributing the stock. Our illustration conveys an admirable idea of the form of the flower, which is built up of broad, incurving, and reflexing florets of exceptional substance. The colour is rich crimson brown, the reverse of the florets being golden buff. It is generally regarded as one of the best novelties of the season and one of the finest of the several that have come to the old country from the worthy Mr. Pockett.

A Handsome Quartette.

SCOTTISH CHIEF is an English seedling Japanese, raised by Mr. Weeks; it seems to be a variety specially adapted to the cooler climate of Scotland. Last year Mr. Beisant staged a remarkably fine bloom at the Edinburgh show, which caused quite a furore amongst cultivators. Mr. Beisant repeated his previous success with the variety this year by securing the award for the premier bloom of the show with a splendid example of Scottish Chief. This amongst something over 3000 blooms was distinctly a creditable achievement. The bloom was 8 inches wide by 7 inches deep. The rather narrow florets are semi-drooping. In colour the lower half of the bloom is pale yellow, the centre rich golden yellow.

Mrs. Ritson is a pure white sport from Vivian Morel, being an exact counterpart of its parent in every way except colour. In Scotland this Japanese grows to perfection, and many grand blooms of it were staged at the late Edinburgh show, where it is in much favour.

It may not be generally known what a grand specimen plant Madame G. Bruant will produce. At Birmingham Show Mr. Brazier staged a plant of this Japanese variety carrying forty magnificent blooms and handsome foliage. When grown in this manner the centre of each bloom is nearly white, while the outer portion is a handsome rose colour.

As a yellow flowered Japanese J. R. Upton has few equals. The habit of growth is all that could be desired, being dwarf—3 to 4 feet—and sturdy, carrying deep green leaves, just the kind of growth for grouping purposes. The blooms, when full sized, measure 9 inches in diameter and are of proportionate depth. The florets are of medium width, curling irregularly and drooping gracefully, still filling up thoroughly its centre; the colour is a rich orange yellow. The illustration on page 423 of the Journal gives an accurate idea of the form of the flower.—E. MOLYNEUX.

Feeding Chrysanthemums.

I READ with amused interest "W.'s" note on the feeding formerly practised by Mr. Gleeson at Stanmore, and I trust to have the pleasure of reading Mr. Gleeson's reply. It seems evident, unless "W." is ironical, that this correspondent is not a believer in abundant feeding of Chrysanthemums. The incident recalls forcibly to mind a visit a what was once a popular garden and a great gardener, who, bitten with the "mum" fever, entered into Chrysanthemum cultivation for the production of big show blooms. He had then great faith in the efficacy of liberal feeding, and did so. His plants were superb to look upon; his results in flowers were most disappointing. He has long since gone to his rest, but even he then learned a lesson.

How many others strong in their belief of the efficacy of these manures so highly recommended, and which unfortunately some do not hesitate to recommend, yet do not use them, have found when the flowering season came that they have been deluded, that the result is gross leafage, and strong but pithy wood and very poor imperfect flowers. All our best growers are chary of patent manures, they rely more on the excellence of their loam, which can hardly be too good, and with which is associated some well decayed old hotbed manure, soot, and a little bonemeal, or even fine bone dust. The use of liquid manures should be sparing, and then given rather in weak than in strong form. There are few better mixtures than sweet horse droppings and soot in the proportion of a bushel of the former and a peck of the

latter to twenty gallons of water, varied by sheep's or deer's droppings, and dissolved basic slag. But a real good firm sweet loam constitutes the basis of successful flower production.—A. D.

Comments on the N.C.S. Show.

UNDER this heading your excellent Chrysanthemum correspondent, "Sadoc," gives us some clear and precise impressions of the great show. I entirely concur with "Sadoc's" assertion that the great vase class was the finest ever seen, not only at the Aquarium, but in the south of England, and the tables containing this class for general interest quite eclipsed all others. Referring to the varieties utilised in the first prize exhibit, I do not think any vase created such a furore as Le Grand Dragon, for the blooms as staged were certainly the finest I have seen of this variety. As to the vase of Pride of Madford, I shall dismiss it by saying I admired its colour, but I object to turning a flower inside out, whether it be a Rose or a Chrysanthemum. Calvat '99 was simply enormous, but the variety lacks colour; it is neither flesh, fish, nor fowl.

I am glad to find your esteemed correspondent considers the incurved section distinctly improving. For my part I am quite sure of it, and while conceding the possibility of a deranged memory, I think I can remember the exhibit of Messrs. Drover at the Centenary Show very well, but the flowers did not strike me so much as the exhibit of Mr. Higgs in the Holmes' Memorial class. They were certainly not the same type of blooms; but "Sadoc" should bear in mind that the section has been considerably broadened since the Centenary Show, and the varieties on the board at that date would have little chance with the exhibition sorts of to-day. Whether the committee acted wisely in admitting such varieties I must leave to the experts, but I am under the impression that had they not done so the incurved section would by this time have been relegated to the same level as the reflexed section; and, after all, the blooms displayed by Mr. Higgs were wonderfully well finished—yes, and, I suppose, dressed too.

I am afraid the fountain classes hardly came up to the ideal formed by many people, but they were a decided improvement on the tins and bags of manures and fertilisers usually seen. I also thought the Anemone classes better than those of the past few years, especially the Japanese type, the competition being keen and the flowers bright, fresh, and well developed. But, alas! our raisers think of nothing but the enormous Japs, and it seems to me are endeavouring to produce that 3-foot flower we read of a week or two ago in the daily Press, to the disadvantage of all other sections.—J. BEE.

Notes on Varieties.

IT was generally admitted that the blooms in the principal classes at the Royal Aquarium were very fine, probably the finest large exhibition blossoms that have yet been seen. The Japanese in the large vase class and in the Holmes' class shown by Mr. F. S. Vallis and Mr. W. Higgs quite sealed the fame of those two growers, whatever they may do in subsequent years. Both being young, we may certainly hope to see them to the fore again. Not so very far behind the first named was Mr. W. Mease, who can probably count a greater number of these contests in which he has taken a prominent part than could any other exhibitor who competed at the last National Show. In his stand the premier Japanese bloom was found, a magnificent specimen of the variety Mrs. Barkley. This flower measured 9½ inches by 7 inches deep, so that those readers who did not see for themselves may judge of its size, and it was not fully developed! This variety was good everywhere, so was Lord Ludlow. Mons. Chenon de Léché seemed prominent, and the blooms had a deeper colour than is usually seen. Lionel Humphrey was a striking blossom, its deep bronzy crimson shade is one that is most telling on a stand. Calvat 1899 is a huge flower without being coarse in colour; it is white tinted pink. As might be expected Madame Carnot was in good form; so, too, was the primrose sport Mrs. W. Mease, but we did not observe good specimens of G. J. Warren.

Probably the finest yellow flower was J. R. Upton, a glorious bloom, and a variety that exhibitors should note. Sir H. Kitchener, a buff yellow flower, was conspicuous, and has been seen in fine form many times this year. A charming incurving white is Miss Alice Byron, and that old variety Eva Knowles in its apricot shade is distinct in colour as well as charming in form. We do not care for Le Grand Dragon, although it was largely shown; it is big, but devoid of grace in its build. Mrs. J. Lewis is a fine white, and among the new sorts Mr. G. Carpenter should be mentioned. It is a huge drooping petalled flower, the colour, rosy purple, being bright and pleasing. Another big bloom is Lord Salisbury; one specimen evidently from a late bud bore a colour quite bronzy crimson in shade, but generally the former tint predominates. Pride of Madford was rich in cases where the flowers had been manipulated by making the florets reflex. This "dressing" of Japanese blooms will doubtless be new to

some readers. Mons. Louis Remy seems to be the best of the family of which Mrs. C. H. Payne is the parent. This is a yellow variety. Mr. T. Carrington should be grown in preference to *Australie*. It is a finer flower as regards form and colour.

R. Hooper Pearson is a little wanting in size, otherwise the rich

coloured bloom, one that exhibitors will find useful. *Vivian* Morel, Charles Davis, and Lady Hanham still hold their own among the best of all, and the old *Graphic* was seen in fine development. Mrs. H. Weeks, magnificent in many cases, is a variety unique in its way; and *Elith Tabor* finds favour with most of the exhibitors.



FIG. 127.—CHRYSANTHEMUM W. R. CHURCH.

yellow is especially useful in a stand. *Edwin Molyneux* is superb in colour, and it will be long ere this variety is beaten. *Miss Nellie Pockett* is a trifle small, but it is nevertheless a lovely flower; and *Madame G. Debie*, in its shade of flesh colour, as well as incurving form, makes a handsome specimen. *Mrs. J. Bryant* is a big pink

Phœbus was grand; this yellow has never been present in richer shade of colour. Mons. *Panckoucke* should not be discarded, it is lovely when seen at its best. Now and then we came across a good bloom of such reds as *H. J. Jones* and *Mrs. W. Seward*, but as they were exceptional it would appear that they are uncertain. *Madame*

Gustave Henry is favoured, and some remarkable blossoms were staged.

The finest incurved variety was Duchess of Fife. It is a white of wonderful build. So, too, is the yellow C. H. Curtis especially deep and well formed. A little known yellow is Mrs. Gerald Williams. This has broader petals than the last named, and is even more handsome in build. Ma Perfection is a pretty white, but Chrysanthème Bruant, although large, borders too much on to the Japanese. Yvonne Desblanc is an attractive white flower, and Mrs. R. C. Kingston, tinted white, is a noble form. There is nothing very bright about the incurved stands, the bronzy Globe d'Or excepting; that is apart from the whites and the yellows. Hanwell Glory, somewhat duller, is however a capital bronze flower. Topaze Orientale was well exhibited, and is gradually becoming a favourite with all who like the incurved type.

It seems to us that most of the other sections of Chrysanthemums are dwarfed by the Japanese and incurved, at least as exhibition flowers; and however well grown they may be, the Anemones, Pompons and reflexed arrest only scant attention. The singles are pretty. Among those noted were Earlswood Beauty, Earlswood Glory and Purity. Rose Pink is a charming shade of rose, and Victoria, primrose, is a good type. Miss Mary Anderson and Miss Annie Holden are perfect in their way; Framfield Beauty is a fine crimson, and Rev. W. E. Remfrey a purple crimson not yet surpassed.

—SPECIALIST.

Ryecroft Nursery.

ALTHOUGH the rush of the Chrysanthemum season may now be regarded as practically over, the time is still opportune for a few notes on the collection grown by Mr. H. J. Jones at Ryecroft Nursery, Hither Green. Preparations will now be commencing for next season's exhibitions, and lists will be in process of compilation. Needless to say this grower has amongst his immense stock plants of all the well known standard varieties, while he makes strenuous efforts to keep in the front line with novelties.

The display at Ryecroft this season differs slightly from its predecessors, inasmuch as there does not appear to be such a large number of plants cultivated for the production of what are termed exhibition blooms. Then, too, the arrangement in the largest span-roofed house was changed, and instead of the familiar undulating banks with a winding path we found a straight central walk with the plants on each side. The interest of the collection did not suffer, and the mind of the visitor was not so much engrossed in examining the splendid flowers as to neglect to observe the excellence of the plants. These for health and cleanliness could not be surpassed, and the cuttings they throw should have such a strong constitution as to insure, with proper care, excellent flowers in the following season. For stock purposes, it is worthy of note, Mr. Jones has several thousands of plants in his nursery near Lewisham Junction Station. These comprise all the leading varieties, and it would be obviously impossible to get cuttings of a healthier nature than those produced by these hardily grown outdoor plants. When our visit was paid just prior to the great N.C.S. Show there were thousands of flowers of fine quality on the plants in this nursery.

Returning to the plants in the enormous collection at Ryecroft, we propose naming a few of the more modern varieties, leaving out those which are familiar to everyone. Those who have visited the collection will, of course, in estimating the value of the novelties, have made due allowance for the conditions under which the flowers have been produced: it is not to be expected that blooms equal in size and richness of colour to those grown in the country can be had at Lewisham. It may safely be asserted, however, that a variety which does well at Ryecroft will luxuriate under more favourable climatic conditions. Some of the blooms noted, though not of the largest size, were of capital colour, and they were, as a rule, particularly refined. Mr. Jones and his grower, Mr. Lionel Humphrey, may be congratulated upon the results of their united efforts.

We may commence with Madame B. Fray, a rich rose coloured Japanese of decided promise. A very attractive incurved Japanese is seen in Mr. A. G. Miller, of which the colour is silvery rose. Mr. S. Fryett, which received an award of merit from the Floral Committee of the Royal Horticultural Society on October 23rd, will be welcomed for its colour—purple amaranth. Edwin Smith is a reflexed Japanese of bright crimson colour that shows the golden buff reverse in a rather effective manner. A chaste and beautiful variety is Mrs. J. C. Neville: the slightly hirsute florets are white with the smallest suspicion of soft rose. Edith Shrimpton, pure white, ought to become popular, as also should May Neville, deep rosy red with a yellow reverse. Better known varieties that were noted as being in first rate condition were Mrs. White Popham, Mrs. A. Tate, the bronze Etoile de Lyon, Edith Pilkington, Miss Alice Byron, Lionel Humphrey, Mdlle. Gabrielle Debie, Hairy Wonder, Jane Molyneux, H. J. Jones, Sir Herbert Kitchener, Vicar of Leatherhead, and the brilliant R. Hooper Pearson.

Chrysanthemums round Bradford.

THE September prospects of a good season were amply fulfilled. The displays in the public parks of the city were very good. The favourite, Lister Park, has a very ornamental conservatory—a light airy structure, erected on the best principle by one of the leading horticultural builders four years ago, and eminently fitted for the display of Chrysanthemums. Mr. H. Lander, the superintendent, takes infinite pains with the arrangement of his plants. No pretence of naming the whole of the varieties can be made, but a few of the best may be specialised. Vivian Morel and Chas. Davis, Mrs. Ritson and Lady Hanham, Madame Gustave Henry, Mutual Friend, Lady Byron, Phœbus, Oceana, and N.C.S. Jubilee were excellent. The Parks Committee throws the conservatory open to the public during Saturday and Sunday, thus giving everyone an opportunity to inspect the display.

Bankfield, Bingley, is regarded in the district as the Mecca of the Chrysanthemum fraternity, and has for many years upheld the reputation of the local growers. The veteran Mr. Midgley has won several cups, and has this year annexed for the third time the open 10-guinea challenge cup. With Mr. W. Daniels, Dewsbury Park, the eminent North of England judge, as a companion, I visited the collection prior to the show, and found heavy flowers full of substance and colour. The selection of the best may include Vivian Morel, beautifully coloured; Eva Knowles, Lady Ridgway, Hero of Omdurman, Miss Nellie Pockett, splendid; Lady Hanham, Chas. Davis, Mrs. Barkley, Reginald Godfrey, Swanley Giant, Mrs. T. Carrington, N.C.S. Jubilee, Phœbus, Edith Tabor, Mrs. White Popham, Lord Salisbury, a richly coloured novelty; the Hon. W. F. D. Smith, Madame Carnot, and sports.

Mr. John Whittingham, Canal House, Shipley, grows Chrysanthemums under difficulties, for his garden is close by the Leeds and Liverpool Canal, and the gasworks are in close proximity. Not daunted by these surroundings, Mr. Whittingham has with care and perseverance produced some grand flowers. One cannot help admiring the untiring labour and patience with which some of our amateurs tend their plants under most adverse circumstances; it is a labour of love, for nothing is spared. Here, for instance, are half a dozen new varieties which must have cost at least 7s. 6d. each in the early spring. They include Janet Lady Clark, a monster flower of rich purple colour; Miss E. Pilkington, a grand yellow; Madame R. Cadbury, a deep weighty flower, ivory white; Lady Francis Osborne, a very massive flower, well built up; Lord Salisbury, a magnificent flower, yellow slightly tinged with purple; and Florence Molyneux, a very promising pure white. Notable amongst older varieties were Henry Weeks, Mrs. W. Seward, Mr. T. Carrington, Miss Nellie Pockett, Lady Hanham, exceedingly good; President Nonin and Mrs. White Popham. The incurved section was represented by good examples of Hanwell Glory, Mrs. R. C. Kingston, and Madame Ferlat. Mr. Whittingham is not alone a good Chrysanthemum grower, but one of our most successful growers and exhibitors of Cactus Dahlias and Asters.—R. EICHEL, Bingley.

Finsbury Park.

OF the several Chrysanthemum shows that are annually provided in the London parks that at Finsbury has always been considered one of the very best. It has been distinguished, not for the immense number of plants grown, but for the excellence of the individual plants. This year proves no exception to the rule, for the plants carried flowers of first size—some so good, in fact, as to have been fit for the exhibition board—and of the clearest and richest colour. It is apparent that Mr. Melville, the superintendent, is fully alive to the reputation enjoyed by the park under his charge, and that he will do all that can be done to maintain it with Chrysanthemums in the autumn and other features at various periods of the year. The autumn *pièce de resistance* attracts visitors from all the surrounding districts as well as from more distant quarters who have heard, and, becoming interested, have wisely decided to judge for themselves.

The structure in which the plants are arranged is certainly not worthy of them, but the best that was possible under the circumstances has been done to insure an attractive display. It is not sufficiently wide to afford scope for an artistic arrangement of winding walks and mounds of plants, and it is somewhat too wide for the single bank system that is in vogue, as the distance from the path to the back flowers is so great as to render their good qualities difficult of appreciation simply because they cannot be properly seen. However, the plants and the flowers evidently enjoy the conditions under which they are growing, and this must be regarded as a point of primary importance. The bank is composed of plants varying in stature from just over 3 feet to some 6 or 7 feet, hence slopes effectively from back to front, and a fair allowance is at command of the stage for effecting undulations in the surface in preference to having the flowers on about as dead a level as a billiard board.

A novel feature that would arrest the attention of everyone entering the house was a large mass of the primrose coloured

Philadelphia, which has not in general cultivation sustained the reputation with which it was sent from America. At Finsbury Park the flowers are very charming, though not of large size. Probably the finest flower in the entire collection at the time of my visit was an ideal example of Florence Molyneux. It was the only bloom on the plant, and, so far as could be seen, the only plant of the variety, but it was of exceptional excellence, and would have been a *tour de force* in many an exhibition stand. More numerous represented was Mrs. H. Weeks, and practically the whole of the flowers were of more than average merit; they had shape, solidity, depth, and broadness of floret. To make a trio of white varieties Simplicity may be added; it was in splendid form. Other three whites of conspicuous merit were Emily Silsbury, Lady Byron, Madame Carnot, which is probably the most popular Chrysanthemum of the day. In addition to these, and practically equal in quality throughout, were Duke and Duchess of Wellington, Pride of Madford, Phœbus, Mr. T. Carrington, N.S.C. Jubilee, W. H. Lincoln, Master H. Tucker, Vicar of Leatherhead, G. W. Childs (valuable for its colour), Lady Hanham, Etoile de Lyon, G. J. Warren, Jas. Bidencope, Le Grand Dragon, Amos Perry, and last, but by no means least in importance of the Japanese, R. Hooper Pearson.

More prominence is given in the Finsbury collection to the incurved section than is, so far as I have observed, the case at the other parks. Not only do there appear to be more plants, but special attention is evidently given them to insure their being of sufficient merit to go with the excellent Japanese that are produced. Some of the best were Chas. H. Curtis, strikingly good in form, colour, and size; Globe d'Or, Chrysanthème Bruant, Madame Edmond Roger, White Beverley, Prince Alfred, Mr. Bunn, and Bonnie Dundee. With Descartes, Delaware, and Sir Walter Raleigh in grand condition, the reference to the Chrysanthemums in Finsbury Park must be brought to a close for another season.

Waterlow Park.

It was the munificence of Sir Sydney Waterlow which gave to Londoners this charming resort, and it is pleasing to know that during the year it is visited by many thousands of the residents in the surrounding districts. Waterlow Park, as it was called after the donor, differs from the remainder of the London Parks in having within its boundaries considerable numbers of fruit trees in the open, with Vines under glass. It has other features distinctly its own, but these can be more fully treated of in the spring and summer months. At the present moment we would call attention to the collection of Chrysanthemums, which has been giving pleasure to thousands of visitors since it was opened in October.

The plants are arranged in a square conservatory-like lofty structure, whence they extend into two of the vineries; and though in the latter the plants are of necessity somewhat crowded, the effect has been most excellent. Now the best of the flowers have gone, and there only remain a few to tell of the beauty of the whole. It is very apparent that the atmospheric conditions that prevail on Highgate Hill are favourable to colour development, and also to refinement of floret, for both these essentials are of excellent quality. In size the flowers are a little lacking, but this is not sufficiently in evidence to mar the general beauty of the display in the smallest degree. Mr. D. Carson was appointed to the post of superintendent in the spring of this year, and deserves hearty congratulation upon the first Chrysanthemum show he has engineered for the benefit of Londoners. A word, too, may be said for Mr. J. Webb, the grower, who is an enthusiast in Chrysanthemum culture, and who kindly furnished the names of a few of the more conspicuous sorts.

One has not been long amidst the plants ere the fact is borne home that well tried standard sorts are almost wholly relied upon—presumably the powers that be prefer to allow other growers to fail or succeed indifferently with some of the newer, and in several cases, decidedly "miffy" varieties. In the arrangement the colours have been capitally blended, and the inclusion of a few incurved, with decorative varieties in the back and foregrounds, adds materially to the effect of the picture. We could not pretend to make a note of every variety, or even every one that was in more than average form, but the following were selected for general excellence in several instances rather than for fine quality in a solitary flower or an individual plant. The well known Anemone Descartes had been employed with judgment to lend variety, as also had the two excellent incurved C. H. Curtis and Bonnie Dundee. In the general collection of Japanese Mrs. White Popham, Mrs. G. W. Palmer, Mons. Chenon de Léché, Commandant Blusset, W. Seward, Phœbus, Pride of Madford, Elthorne Beauty, Madame Gustave Henry, Amiral Avellan, Mrs. Trafford, Madame Carnot, G. J. Warren, Mrs. W. Mease, Edith Tabor, Oceana, Soleil d'Octobre, Chas. Davis, Lady Hanham, Jas. Bidencope, Mrs. J. Lewis, Mrs. Jas. Beisant, and Le Grand Dragon were amongst the best and most distinct.

At Waterlow Park, as in the other parks where Chrysanthemums are grown by the London County Council, the system of naming is far from perfect, and the educational value of the displays would be vastly improved if some better method were adopted.—MONOCLE.

Temporary Hotbeds.

THESE are very useful for sheltering plants taken up from the flower garden, for rooting late cuttings, and for forcing Asparagus, Rhubarb, and Seakale. It is expensive to make even a slight hotbed if long litter must be purchased, but where a little short manure can be obtained, together with mowings from the lawn and tree leaves, there is little difficulty in finding sufficient material. A mixture of grass, leaves, and litter will afford a good lasting heat, the grass contributing to the regular slow decomposition of the straw. When thrown together for a few days I often use the mixture at once, and just as often after it has had one turning; but in the case of all such temporary beds we want to get the heat under something, and not allow it to be spent in heating the general atmosphere. A bed of the above description from 18 to 24 inches deep would be apt to kill whatever was put on it if growing freely. For many purposes, therefore, I am quite satisfied if I can put from 15 to 24 inches of this hot rank mixture near the bottom of a bed, and above it from 6 to 12 inches of the half-decayed manure and leaves similar to the above at first before being thoroughly sweetened. In this roots and pots can at once be set with safety, and the required amount of heat be obtained. After the first season, when one has an old bed to go to, there is no difficulty in following up this system. The safety consists in the surfacing with the half-decomposed material, which heats and retains the heat given to it, whilst all unwholesome steam is absorbed by the under layers. For slight hotbeds, if the heat declines, you have only to take off the surface, stir up the fresh material, and add a little more (which will act like fresh fuel in a breeze), and cover again.

I have had to make hotbeds after turning and re-turning the manure until it became sweet; but then it was much reduced in bulk. For many years I have wasted the fermenting heat but little, using it even with a fiery heat, and regulating it by a covering of partly decomposed sweet material from an old bed. A far more continuous heat is secured in this way than using material turned and decomposed that it sinks so firmly together that air cannot enter to keep up the combustion, and in fact if the air could enter there is nothing to waste—in other words, to fire or give out heat. To make the most of the heat from fermenting animal and vegetable matter there must be a sufficient amount of moisture and air, as well as warmth in the air, to support what we may call a slow regular combustion, or heat from decomposition. For example, a week or so ago the Cucumbers were taken out from four lights of framing over a hotbed made in February and the plants turned out in March. The sides of the bed were well decayed, and perfectly suitable for top-dressing Strawberries, Asparagus, or flower beds. This portion and all the old surfacing were removed, but there was a fine cone in the centre still retaining heat, and eminently fitted for being mixed with fresh material and surfacing beds to help on late cuttings.

This is only one instance of many in which it may be seen that such a rough way of making a bed is not only by far the most economical as regards material, but also the best mode for securing a lasting heat. When fermenting material was so turned and decomposed before being made into a bed, if made in February and taken out in October, if not lined would have had but little heat left, and could have been cut out with a spade like so many slices of cheese. For an old bed a spade would have been almost useless for the centre; a fork was necessary to move it, and a goodly portion therefore, after all these months, was in the best condition for use again.

I have often been vexed at the sight of heaps of fresh tree leaves sweetening until they were half-decayed before being considered fit for a hotbed. When placed in a heap they soon heat if they are moist enough, and the vapour given off by tree leaves alone is harmless; hence their usefulness for mild hotbeds when used by themselves, or as a surfacing from 9 to 12 inches thick over other fermenting materials less safe and sweet in the vapours they emit.—F. R.

Persian Cyclamens.—My seedling Cyclamen persicum, the seeds of which were sown in March and the plants grown in a frame, have done remarkably well, quite as well as I have usually had them from autumn and early spring sowing and growing in heat until midsummer. I have several plants in flower of a very serviceable size for decorative purposes. The old plants have been kept in cold frames and shaded from bright sun. They were kept moist and were not repotted when recommencing growth, but a little of the surface soil was removed and replaced with fresh turfy loam and cow manure (old), and the result is a great profusion of flower buds and healthy foliage. Some of the corms are 4 to 5 inches in diameter, and promise to flower better than they have done in previous seasons. They will be kept in a temperature of 40° to 45° fire heat, and be placed near the glass on a cool moist bottom, for I am convinced that the flower and leaf stems damp at their base from the frequency of the watering necessitated by keeping the plants in a dry place.—A. G.

Carbonic Acid Gas as a Fertiliser.

ON page 331 Mr. W. Mills treats this subject in his usual able manner from a chemical point of view, and expresses his own opinion while asking for the Editor's on the practical side. The latter, from the excerpt given on the page quoted from Percival's "Agricultural Botany," does not extend beyond the "probable" value of carbonic acid gas as a fertiliser. In Johnson's "How Crops Grow," page 368, appears, after stating "From the atmosphere the crop can derive no appreciable quantity of those elements that are found in its ash," the statement—"In the soil, however, from the waste of both plants and animals may accumulate large supplies of all the elements of the volatile part of plants. Carbon, certainly in the form of carbon dioxide, probably or possibly in the condition of humus (vegetable mould, swamp muck), may thus be put as food, at the disposition of the plant."

Passing to the practical, I can hardly follow Mr. Mills in "the fact that ammoniac carbonate makes plants grow more vigorously than ammonia *per se*, for by watering plants with very dilute solutions of ammonia their luxuriance is made to surpass by far that of similar plants which grow in precisely the same conditions, save that they are supplied with pure water. What of the carbonate or the value of carbonic acid as a fertiliser? Hellriegel, in 1868, demonstrated by experiments that an artificial supply, whether of the gas, of its aqueous solution, or of a carbonate to the soil, had no effect to increase the crop. Nevertheless, the value of carbonate of ammonia as a fertiliser is unquestionable, but that is not the point. The average quantity of ammonia in the atmosphere is one part in 50 millions, according to Ville, and are we to conclude that this ammonia reaches the earth as carbonate? In dry weather the atmosphere contains more ammonia than usual, since ammonia escapes from its solutions with the first portions of aqueous vapour; and may we deduce from the filip given to vegetation by the first rain in quantity, after a droughty time, that it is due to the extra amount of ammonia washed out of the atmosphere into the soil? In some degree this may be, for ammonia and its carbonate are readily soluble in water, and is at the disposal of the plant both in the atmosphere and soil. Ville has stated, 1851-2, that vegetation in

conservatories may be remarkably promoted by impregnating the air with gaseous carbonate of ammonia, and every gardener knows that a mulching of short manure, bed of fermenting material, or sprinkling with stable and cow-house drainings, contributes to the health and vigour of plants and crops. Truly foliage absorbs ammonia, as carbonic acid is imbibed by the leaves of plants. This was conclusively proved by Peters and Sachs experimenting on two young Bean plants growing in river sand. The absorption of ammonia by foliage does not appear, like that of carbonic acid, to depend upon the action of sunlight, but, as remarked by Mulder, may go on at all times, especially since the juices of plants are very frequently more or less charged with acids which directly unite chemically with ammonia.

Now for the soil to which ammonia salts are applied as fertilisers, and the measure of their nutritive effect determined by the amount of nitrogen which vegetation assimilates from them. When rains fall, or dews deposit upon the surface of the soil, or upon the foliage of a cultivated field or garden, they bring to the reach of vegetation in a given time a quantity of ammonia far greater than what is diffused through the limited volume of air which contributes to the nourishment of plants. The first portion of rain that falls usually contains much more ammonia than the latter portions. Gardeners know this, hence use the freshly fallen rain water for watering borders, having noticed the difference to vegetation between it and that of a long-continued rain. Assuming this to be in the form of carbonate, Mr. Mills' opinion receives a measure of countenance, but is it not the ammonia that has the remarkable effect upon vegetation, deepening the colour of the foliage of plants, an indication of increased vegetative activity and health, as a pale or yellow tint belongs to a sickly or ill-fed growth? It is the carbonic acid gas that gives force to the ammonia, states Mr. Mills, inasmuch as "ammoniac carbonate makes plants grow more vigorously than ammonia *per se*."

Admitting the probable or possible absorption and utilisation by green plants of organic carbon compounds from the humus or decaying vegetable and animal remains within the soil, what use are they in the economy of vegetation? Not a particle, according to Mr. Mills, but rather a waste of force in the absence of ammonia. If so, what is the value of ammoniac carbonate over other forms of ammonia? Its carbonic acid. Of this element the soil contains a considerable percentage, as determined by Boussingault and Sewy, and shown in the accompanying table.

	Cubic feet of air in acre to depth of 14 inches.	Cubic feet of carbonic acid in acre to depth of 14 inches.	Composition of the air in the soil in 100 parts by volume.		
			Carbonic acid.	Oxygen.	Nitrogen.
Sandy subsoil of forest	4,416	14	0.24	—	—
Loamy subsoil of forest	3,530	28	0.79	19.66	79.55
Surface soil of forest	5,891	57	0.87	19.61	79.52
Clayey soil of Artichoke field	10,310	71	0.66	19.99	79.35
Soil of Asparagus bed not manured for one year	11,182	86	0.74	19.02	80.24
Soil of Asparagus bed newly manured	11,182	172	1.54	18.80	79.66
Sandy soil six days after manuring	11,783	237	2.21	—	—
Sandy soil ten days after manuring, three days of rain	11,783	1144	9.74	10.35	79.91
Vegetable mould compost	21,049	772	3.64	16.45	79.91
	Cubic feet of air over 1 acre to height of 14 inches.	Cubic feet of carbonic acid in air over 1 acre to height of 14 inches.	Composition of air above the soil in 100 parts.		
			Carbonic acid.	Oxygen.	Nitrogen.
	50,820	12	0.025	20.945	79.630

"The percentage, as well as the absolute quantity of carbonic acid, is seen to stand in close relation with the organic matters of the soil. The influence of the recent application of manure rich in organic substances is strikingly shown in the case of the Asparagus bed and the sandy soil. The lowest percentage of carbonic acid is ten times that of the atmosphere a few feet above the surface of the earth, as determined at the same time, while the highest percentage is 390 times that proportion.

"Even in the sandy subsoil the quantity of free carbonic acid is as great as in an equal bulk of the atmosphere, and in the cultivated soils it is present in from six to ninety-five times greater amount. In other words, in the cultivated soils taken to the depth of 14 inches there was found as much carbonic acid gas as existed in the same horizontal area of the atmosphere through a height of 7 to 110 feet.

"The accumulation of such a percentage of carbonic acid gas in the interstices of the soil demonstrates the rapid formation of this substance, which must as rapidly diffuse off into the air. The roots, and, what is of more significance, the leaves of crops, are thus far more copiously fed with this substance than were they simply bathed by the free atmosphere so long as the latter is unagitated.

"When the wind blows, the carbonic acid of the soil is of less account in feeding vegetation compared with that of the atmosphere. When the air moves at the rate of 2 feet per second, the current is just plainly perceptible. A mass of foliage 2 feet high and 200 feet long situated in such a current, would be swept by a volume of atmosphere amounting in one minute to 48,000 cubic feet, and containing 12 cubic feet of carbonic acid. In one hour it would amount to 2,880,000 cubic feet of air, equal to 720 cubic feet of carbonic acid, and in one day to 69,120,000 cubic feet of air, containing no less than 17,280 cubic feet of carbonic acid.

"In a brisk wind, ten times the above quantities of air and carbonic acid would pass by or through the foliage. It is plain, then, that the atmosphere, which is rarely at rest, can supply carbonic acid

abundantly to foliage without the concurrence of the soil. At the same time it should not be forgotten that the carbonic acid of the atmosphere is largely derived from the soil." — (Johnson's "How Crops Feed," pages 219, 220.)

The carbonic acid in the water of soil does not exceed 2 per cent. of its volume of the gas. Granted that carbonic acid is imbibed by roots with water and other elements in solution, it follows that soils containing much decaying vegetable matter will afford a more regular supply of carbonic acid, and the vegetation in consequence will profit accordingly. But is not this due to the ammonia evolved and the fertility of soil dependent thereon? The more carbonic acid in a soil the more ammonia! What of the carbon compounds in the case of bogs, moors, and over-manured garden soils? Are they "always fertile?" Truly these are poisoned by the acids termed "humous," which are supplied by the decaying organic matter of the soil, and the corrective is an application of lime. Thus bases are needed to form carbonates, and is it not the base rather than the carbonic acid that renders land containing much decaying vegetable matter fertile? An application of lime practically eats up the carbon and generates both ammonia and carbonic acid, so that a soil containing sufficient decaying vegetable or animal remains to evolve a steady and ample supply of both ammonia and carbonic acid is always fertile, other essential food materials being present and available in adequate and corresponding measure.

But the value of carbonic acid gas as a fertiliser pales into insignificance beside the fact of obtaining gaseous ammonia in the form of sulphate at 30s. instead of £40 per ton. Really such a fact is almost too good to be true, and it is all brought about by bringing ammonia in contact with carbonic acid gas. Where the ammonia is to come from Mr. Mills does not explain, but the carbonic acid gas is to be "hottled" from chimneys, and once it has got into the soil it will spring therefrom as the pure article and the sun will do the rest in the plant, but only on the parts in the atmosphere or light.—G. ABBEY.

Aster diplostephioides.

THIS, "W. R. Brown," is a fine but somewhat rare Aster. That it is so seldom seen in gardens is no doubt to be accounted for by the difficulty experienced in its cultivation in some parts of the country. Described in 1836 by De Candolle in his "Prodromus" under the name of *Heterochaeta diplostephioides* and figured in the "Bot. Mag.," t. 6718, it would have been frequently met with could it be regarded as a true perennial in most gardens. This is not so, however, as in many places it proves to be only a biennial. In several instances which have come within notice it has not, however, proved so satisfactory, and has consequently been discarded. This appears to be a common occurrence with many plants from the Himalayas, of which *A. diplostephioides* is a native. Many of them are very fastidious in their ways, and while flourishing in some gardens are failures in others. *A. diplostephioides* (fig. 128), grows from 16 to 24 inches in height and produces beautiful flowers of large size, in some cases nearly 4 inches in diameter. The ray florets are bright blue purple with a bronzy coloured zone and a blackish purple disc. It is to be hoped that its successful culture in some gardens may lead to it being more frequently seen.

Chrysanthemum Shows

Birkenhead,

November 21st and 22nd.

THE newly appointed secretary, Mr. Yeo, is to be congratulated on the success he and his committee attained in their endeavours to satisfy their subscribers and the public. The weather for the past few weeks has been of the worst description, the blooms damping wholesale, and the wonder was that so lovely a display should have graced the fine hall of the Young Men's Association, where the show was held.

In the cup class, given by E. C. Thin, Esq., Nocturnum, Mr. P. Jakeman, gardener to Mrs. Heap, Blackmore, West Derby, staged twenty-four Japanese, distinct, in faultless style, every flower being fresh, richly coloured. The varieties were Madame Gustave Henry, Secretaire Fierens, Mons. Hoste, Madame Carnot, Vivian Morel, M. Louis Remy, Mr. C. A. Compton, Australie, President Bevan, Mons. Gruyer, Mrs. Mease, Mrs. Barkley, Mutual Friend, Mons. Chenon de Léché, Edith Tabor, Madame Debrie, Nellie Pockett, Le Grand Dragon, N.C.S. Jubilee, Phœbus, Master H. Tucker, Miss A. Byron, Chatsworth, and Simplicity. E. Ellis, Esq., Heswall, came second; Mr. J. Williams, gardener to C. J. Procter, Esq., Boscobel, Nocturnum, third.

Mr. Ellis secured the class for twelve incurved. Particularly good were Ma Perfection, Topaze Orientale, Hanwell Glory, Duchess of Fife, Perle Dauphinoise, and Mdle. Lucie Faure. Mr. G. Sedgely, gardener to T. Case Morris, Esq., came in a fairly good second. There were charming blooms in the local class for twelve distinct, Mr. C. W. Findlow, gardener to G. E. Moses, Esq., taking the lead. For twelve incurved and six, the same grower took the premier honours; Mr. J. Williams taking the second with well formed blooms. Mr. A. Brown, gardener to George Webster, Esq., won with six distinct Japanese.

Three trade exhibits stood out prominently—viz., the splendid

Apples from Messrs. Dicksons, Ltd., Chester, the fine group of Cyclamen and Begonia de Lorraine from Messrs. R. P. Ker & Sons, and the extensive display of various plants from Mr. W. Henderson.

Leamington and Warwick,

November 22nd and 23rd.

FAVoured by the first really bright days of sunshine during the month this popular show proved in every way one of the most successful yet held, and was attended by a large number of visitors. The event was held in the capacious Public Hall. The arrangements of the exhibits, under the superintendence of the chairman, Mr. R. Jones, and the secretary, Mr. Arthur J. Nichols, were efficiently carried out. There were only two groups of Chrysanthemum plants arranged for effect in the open class. Mr. Draper, gardener to R. O. Milne, Esq., led the way with a meritorious and elegant arrangement, the second prize falling to the Leamington Nurserymen and Florist Co., Ltd., with a somewhat similar exhibit.

Cut blooms of Chrysanthemums were excellently shown. For twenty-four blooms of Japanese Chrysanthemums the coveted prize of a silver cup value 5 guineas, given by C. A. Smith Ryland, Esq., was annexed by Mr. A. Chandler, with grand examples of G. J. Warren, Madame Cadbury, Etoile de Lyon, Mons. Chenon de Léché, Miss A. Byron, Silver King, Mrs. Mease, Mr. J. W. Barkley, Mr. F. A. Compton, Oceana, Miss Nellie Pockett, Master H. Tucker, Mons. Gruyer, Graphic, Mons. Hoste, Wattleblossom, Australie, Mrs. G. W. Palmer, Madame Carnot, Madame G. Delvine, Mrs. Barkley, Mons. Louis Remy, Mr. J. Lewis, and Mrs. Payne. The second prize went to Mr. H. Blakeway with fine examples, and the third to Mr. H. Liney, gardener to W. M. Low, Esq., Wellesborne, with good blooms. In the class for twelve Japanese and twelve incurved, distinct, the silver cup, value 3 guineas, presented by J. M. Molesworth, Esq., was secured by Mr. A. Chandler with the following varieties:—Japanese varieties: G. J. Warren, Mr. J. Lewis, Graphic, Silver King, Mons. Hoste, Oceana, Madame Cadbury, Master H. Tucker, Madame Gustave Henry, Australie, Mons. Louis Remy, and Mons. Gruyer. Incurved: Duchess of Fife, Hanwell Glory, Louisa Giles, Miss Dorothy Foster, C. H. Curtis, Mrs. H. J. Jones, Mdle. Lucie Faure, W. Tunnington, Mr. W. C. Egan, Topaze Orientale, Ma Perfection, and Bonnie Dundee. The second prize was awarded to Mr. R. Jones, his incurved being remarkably fine and fresh.

For twelve incurved blooms, not less than nine varieties, Mr. A.

Chandler was again to the fore with Duchess of Fife, Dorothy Foster, C. H. Curtis, Hanwell Glory, Bonnie Dundee, Ma Perfection, Louisa Giles, and Topaze Orientale. Second honours fell to Mr. R. Jones. For twelve Japanese, distinct, Mr. A. Chandler was invincible with Australie, Mr. W. H. Lees, Oceana, Madame Gustave Henry, Master H. Tucker, Madame Cadbury, G. J. Warren, Etoile de Lyon, G. C. Schwabe, Silver King, Louis Remy, and Mrs. Barkley. The second prize went to Mr. H. Blakeway.

Table decorations by lady amateurs were artistically arranged, respectively by Mrs. G. Hopkins and Mrs. Garlick. For the best twelve blooms of Chrysanthemums on long stalks in vases, Mr. W. Goodman, gardener to P. A. Leaf, Esq., was placed first, and the Leamington Nurserymen's Co. second, both with good examples. For a bouquet of Chrysanthemums Messrs. W. Vause, E. Perkins, and Finch & Co. were placed in the order named. For a cross of Chrysanthemum flowers Messrs. Finch, Vause, and Perkins were successful.



FIG. 128.—ASTER DIPLOSTEPHIOIDES.

A first-class certificate was awarded to Mr. E. Crump, Leamington, for a seedling black Grape, said to be a cross between Black Alidante and Gros Guillaume (somewhat resembling Madresfield Court in shape of berry), fleshy, the berries large with a rich vinous flavour, and keeps in good condition until March, and is an abundant bearer. Messrs. Isaac House & Son, Westbury-on-Trym, Bristol had a stand of Violets, and Messrs. Edwards of Nottingham, the Edwardian floral decorations.

Young Gardeners' Domain.

The R.H.S. Examinations.

I WAS much interested in Mr. Day's able article on page 364. Perhaps, now your correspondent has set the ball rolling, some of our leading gardeners will follow it up, which they have not done in previous years. Most gardeners, I think, will agree with Mr. Day when he says hardly anyone, whether private employer or nurseryman, would think of taking any notice of a first-class certificate. Anyone looking down the list of successful students can see there are few gardeners in the first class. For myself, I think there should be two sections, one for college students and one for gardeners, giving the latter all practical questions. I think there would then be more young men from the gardens in the examinations.

Theoretical knowledge may be very well with a good all-round practice, but theory without the practice is a dangerous thing in gardening. I read a few weeks ago of a lady of title, who said that there are good and well paid posts waiting for women as under gardeners, forewomen in glass houses, or as directors in charge of small gardens. Now I wonder how many of our leading gardeners would care to take a woman as under gardener or forewoman? Not many, I am sure. Do these lady gardeners know the real routine of a gardener's life, from stokehole boy to head gardener? If they did I do not think they would talk so much of gardening for a living.

Again, does it stand to reason for a college student, with a year or so of training, being capable of managing even a medium-sized place, where a supply of fruit, vegetables, and flowers has to be maintained the year through? We will take for an instance a student from any of the horticultural colleges in England, placed against a man who has served a lifetime in a garden. The one that comes out first is the student in most of the examinations, but put at practical work the case would be reversed.

Can any reader see what benefit it is to a gardener to obtain a first-class certificate? And if there are good and well-paid places for women, why is there none for good, practical men, with first-class references to show they are so? I know several excellent foremen at the present time only waiting for the opportunity to get a medium-sized place as head gardener—men that have had sound practical teaching in well-known gardens, with fifteen years' or more experience. But if women are going to step into these good and well-paid posts, then I say it is not much encouragement for young men to waste the best of their days in bothies, with low wages and long hours, and the sooner they turn their mind from it the better, and take up a trade, where the best workman gets the best wages.—J. BOTLEY, *Blythewood Gardens*.

Grevillea robusta.—This is, without doubt, one of the finest and most graceful plants we have. Its attractive appearance ought to gain a place for it in every garden where a small house is at command. It does not require a great amount of heat, and this is my reason for saying a few words in its favour. It is very useful for table decoration, and also makes a very good window plant. Seeds may be sown at any time in the year, but spring is the best. The seeds should be sown in a pan, well drained. The compost should consist of good loam, peat, and leaf mould in equal parts, with a little sand. Fill the pan to within an inch or so of the top, then get a fine rose-pot, and well water it. Sow the seeds thinly on the top, cover with a little of the finer portion of the compost, remove the pan into the warmest place in the house and the seedlings will soon appear. When large enough to handle it will be necessary to place them into small pots, using similar materials to those before recommended; put them near the glass to prevent them from drawing, and attend to watering carefully. Many persons give too much water to freshly potted plants. It is a great mistake in plant culture, for it causes the soil to become sour before the young plants have taken possession of it, and if this is allowed to take place, there are ten chances to one against their growing at all. Good judgment in watering is necessary to insure success in plant culture. As soon as the plants have filled the pots with healthy roots they should be transferred to 5-inch pots, using similar material. Pot rather firmly, and return them to the house. In my opinion the pot named is quite large enough for them, for when they fill these with roots, and the soil becomes a little exhausted, liquid manure may be given, which will greatly assist them in their growth.—R. H.



Hardy Fruit Garden.

Bush Fruit.—Planting.—An open period, when the soil is dry on the surface, and therefore readily workable, ought to be chosen for planting young Gooseberries, Currants, and Raspberries. It is best to plant on ground that has become fairly firm after deep and thorough preparation some weeks earlier, but if this is not practicable, by no means plant on shallow prepared ground, but defer the insertion of the bushes until the ground can be liberally treated in the matter of deep digging and generous manuring, which small bush fruit trees require and appreciate. Currants and Gooseberries should, on good ground, be planted in rows 6 feet apart, and the same distance given between each plant in the row. Nothing is gained by overcrowding them. When this is avoided they are healthier, more productive, and more easily managed.

In the process of planting lay out the roots in wide and shallow holes. Cut back injured roots to firm parts, and shorten those of undue length should there be any such. It is of great assistance in encouraging early root action if the fibres are carefully covered with some fine compost consisting of loam mixed with burnt refuse, spreading it over them from the stem outwards, and finish with the ordinary soil. In a windy position a stake to each bush is advantageous until established. Mulch over the roots with some littery manure.

Raspberries must be planted in rows 5 feet apart. It is immaterial whether the plants are inserted in a continuous line or in clumps. In the latter case clumps of three plants should be 3 feet apart in the rows. The planting canes most suitable are those of moderate size, furnished with abundance of fibrous roots. Shorten the canes near to the ground in spring.

Pruning Established Bushes.—Gooseberries and Currants may be pruned now, though they are frequently not dealt with until spring. Thinning out crowded growths, especially in the centres of the trees, is the first detail in the treatment of Gooseberries and Black Currants. A fair quantity of the current year's growths may be left all over the trees, cutting out old portions to make room. The fruitfulness of the Black Currant depends largely on this method of treatment. Much of the young growth of Gooseberries not required may be shortened to form spurs instead of cutting out entirely, so that fruit will be produced on them as well as young growths.

A more formal method is followed in the treatment of Red and White Currants. Established bushes possess a limited number of main branches springing from the base. The side shoots from these ought now to be pruned back to two or three buds, and the leading shoot shortened to one-third its length. When a branch is becoming too old a young one from the base may be trained in to take its place. Shorten it each winter so that it may readily produce side shoots in summer.

Mulching.—Annual mulchings of rich farmyard manure laid over the roots are of great benefit in furnishing food for the active fibres, which are freely produced near the surface. The manure may be laid on the soil now about 2 inches thick, and should not be dug or forked in, as the winter rains will wash its virtues down to the roots and promote that desirable vigour which enables the bushes to produce good crops. Raspberries as well as Currants and Gooseberries are included.

Winter Pruning.—Now that all the leaves have fallen the desirability of commencing the pruning of all forms of fruit trees is apparent. Mild and open weather usually prevails, and the work can be proceeded with under favourable conditions.

Morello Cherries on Walls.—These trees require a considerable amount of training, hence should be dealt with early. The fruit is borne freely on young shoots, abundance of which ought to be reserved for laying in, and an equal number of the old bearing growths cut out. Remove the latter first, likewise any exhausted or worn out branches which may appear on old-established trees. The young shoots may be laid in at full length 3 or 4 inches apart all over the trees, tying some over the bare stems of the main branches. Shoots for which there is no room may be cut out entirely, though in some positions it may be advisable to shorten them for forming spurs. Well managed trees, however, do not as a rule require artificially formed spurs.

Pyramids.—The winter pruning of these frequently consists in thinning out some of the main branches, a crowded condition preventing fruiting. Shorten the side shoots to two buds as in restricted bushes.

Cordons.—The main pruning of cordons is the thinning of crowded spurs and reducing those portions that have extended too far from the main branch. This is chiefly applicable to aged cordons. Young branches will necessarily have shorter spurs, no reduction in them being necessary. The side shoots on these as well as old spurs require to be shortened to two buds.

Fruit Forcing.

Cherry House.—The pruning of the trees should be attended to without delay. Those fully grown and regularly stopped during growth will require little pruning. Shoots not wanted for extension should be cut back to about an inch from their base and the worn-out and decayed spurs may be removed. The terminal shoots in the case of young trees not full sized must not be shortened unless the extremity of the trellis is reached, and the central shoots of young trees will require to be cut back as may be necessary to originate shoots for filling up space regularly, care being taken to prune to a wood bud. Fan-training is the most eligible system, particularly suited to the Cherry, as it admits of replacing any branch that may fall a prey to gumming. The house should have a thorough cleansing, syringing it and the trees with water at a temperature of 135° to 140°, afterwards dressing the latter with an insecticide. A composition formed of a solution of soft-soap, 4 ozs. to half a gallon of water, 1 quart tobacco juice diluted with a similar quantity of hot water, with slaked lime and sulphur in equal parts, the sulphur being sprinkled on the hot lime in slaking, sufficient to form a thin paint, is an excellent dressing for Cherry trees, applying with a brush, and taking care not to injure the buds. The roof-lights need not be put on until the time arrives for starting the trees, which may be with the new year, to have ripe Cherries in April.

Cucumbers.—The constant firing dries the atmosphere, especially in the immediate vicinity of the hot-water pipes, more than is good for the foliage, and the fruits become stunted, and swell irregularly under such conditions, while when the pipes are close to the roots the soil is dried too much for healthy growth. Be careful in ventilating, providing it, however, whenever a favourable opportunity offers, but exclude air when the external atmosphere is sharp and cold. In bright but cold weather turn off the top heat when the sun is powerful, and likely to raise the temperature above 80° in such weather, damping the house morning and afternoon, and closing early. Care must be taken in damping, so as not to wet the embryo fruits, as they will damp if water remains on them, or hangs from their points for any length of time. Water will be required at the roots about twice a week. Maintain a temperature of 60° to 65° at night, and 70° to 75° by day.

Winter fruiters, or plants from August or September sowings, having grown to the extent of the trellis, will have produced some fruits and have abundance of others showing or swelling. It is not, however, a good plan to allow the plants to bear to any great extent for some time unless there is pressing demand for fruit, and then the cropping will tell disastrously on the supplies. Winter Cucumber plants cannot be too sturdy in growth and too thick and leathery in the leaves, but they may be too luxuriant, and in that condition highly susceptible of atmospheric changes. Attend to stopping and tying frequently, thinning to avoid overcrowding, allowing space for the unshaded development of the foliage. If canker appear subdue it by rubbing powdered quicklime into the affected part, removing every bad leaf and decayed growth promptly, rubbing a little lime on the wounds. If mildew appear dust with flowers of sulphur, or preferably a fungicide in powder containing sulphate of copper, such as anti-blight, it being advisable to dust some over the plants with a view to its prevention.

When white fly is first seen a little sulphur formed into a cream with skim milk should be brushed on the hot-water pipes. This is equally efficacious against mildew and spot fungus (*Glœosporium Lindemuthianum*), which sometimes causes brown spots on the fruits, and then they grow crooked and have hard flesh in places. Sulphur fumes are also disagreeable to red spider, and in no wise inimical to Cucumbers unless the hot-water pipes are too highly heated, and the fumes given off for a prolonged period at a high temperature.

Strawberries in Pots.—All plants for early forcing should be in frames. They cannot have too much air, therefore tilt the lights in mild weather, and remove them altogether when it is fair and warm, keeping close when frost prevails. Do not place them in Peach or other houses where they will be subjected to drying currents of air. Evaporation in such is excessive and constant, wastes the energies of the plants, and not infrequently so dries the soil at sides of the pots as to destroy the active feeders. Drought is the greatest bane of the Strawberries; those in frames must have water as required, always keeping the soil moderately moist. Plants for midseason and late forcing are just as well stood on ashes, and plunged over the rims in that material or cocoa-nut fibre refuse, the situation being sheltered but not shaded.

Plants of La Grosse Sucrée, Royal Sovereign and Vicomtesse Hericart de Thury must be held in readiness for starting next month where early fruit is required. There is no question that a Strawberry house is the most suitable, especially when pitted with stage shelves, so that the plants will be about a foot from the glass, that is the top of the pots on the side nearest to it, as the wants of the plants can be furnished according to their advantageous requirements, which is not always the case when the plants have to be forced in vineries or Peach houses. An early Peach house takes a good number, and is particularly suited to such varieties as Noble and Auguste Nicaise, as they do not bear as much heat in the early stages of forcing as those named above. Plants having well developed crowns and abundant roots should be selected, as only these give a satisfactory issue.

Trade Catalogues Received.

H. P. Boscher, Belmont Works, Twickenham.—*Horticultural Buildings*. Fisher, Son & Sibray, Ltd., Handsworth, Sheffield.—*Fruit Trees, Roses, and Shrubs*. Herb & Wulle, Naples.—*Seeds*. Hogg & Robertson, 22, Mary Street, Dublin.—*Forest Trees and Conifers*. Kent & Brydon, Darlington.—*Forest, Fruit, and Ornamental Trees*. W. Wells & Co., Ltd., Earlswood.—*Chrysanthemums*.



All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Judging at Chrysanthemum Shows (*Not Satisfied, and F. J.*).—We make it a rule never to reply to questions of this nature unless a schedule is forwarded. If you care to do this we will do our best to assist you.

Grapes to Name (*W. B.*).—The samples had been much rubbed and considerably smashed in transit, the numbers and writing on the packages being almost illegible. This, in conjunction with the imperfect ripening of the fruit, renders identification extremely difficult. The varieties appear to be:—No. 1, Early White Malvasia; No. 2, Early Green Madeira; No. 3, Ingram's Hardy Prolific Muscat; No. 4, Black Prince.

Coelogyne cristata with Brownd Leaves (*F. B. L.*).—The cause of the leaves browning at the ends is water lodging there for a considerable time, this destroying the tissues. It is not advisable, therefore, at any time to syringe the plant, always supplying water without wetting the leaves. When growing, the temperature of the cool end of the Cattleya house, or that of a stove, will suit this plant admirably, but during winter it should be kept quite cool. It is not advisable to supply artificial manure. Pot or pan culture is the most suitable. In preparing these good drainage must be carefully provided, as although the plant requires and enjoys a liberal supply of water during the growing season nothing stagnant or sour must be allowed to come near the roots. A good compost may be formed of about equal parts living sphagnum and fibrous peat, with the addition of a little silver sand. The plants should be raised upon a moderate-sized cone above the rim of the pot or pan, and then firmly pressed down. The time for repotting or surfacing is just after the flowers are past. Although, as before stated, the plant requires a copious supply of water when growing, care must be taken that it does not lie in the centre of the young shoots, or they will be very apt to decay.

Datura Stramonium (*W. J. R.*).—This plant is commonly called the Thorn Apple or Stramonium. It is an acrid narcotic, belonging to the family of Nightshades. It is found wild in Britain, having escaped from the gardens, and its habitat is generally among rubbish and on dunghills. It is easily known by its large oval seed vessels, thickly covered with stout, sharp spines. The whole plant has a disagreeable, nauseous, and heavy odour, particularly when bruised, and an acrid bitter taste. It loses much of its odour by drying, but retains its properties. When taken internally in moderate doses it causes numbness, vertigo, dimness of vision, dilation of the pupils, produces a slight delirium, intoxication, and forgetfulness, and these effects pass off in five or six hours; but if the quantity taken be large, then all the symptoms of poisoning are presented, as heartburn, intense thirst, a feeling of strangulation, delirium, madness, convulsive movements, and paralysis; congestion of the brain ensues, symptoms of inflammation are manifested, and death follows in twelve or fifteen hours. M. Orfila states that Stramonium acts with more force on the brain than Belladonna, and produces more furious delirium. Stramonium smoked like tobacco is a popular remedy for the cure of asthma. Its use in this way has been derived from the East Indies, where other species are used for this purpose. It is the root and lower parts of the stem which are so employed, and the smoke excites a sense of heat in the chest, followed by copious expectoration, and sometimes attended with temporary vertigo and drowsiness. The seeds have the same nauseous bitter taste as the leaves, and in them Brandes discovered an alkaline principle called Daturia, combined with an excess of malic acid. It is in the form of colourless crystals, inodorous, and when first applied to the tongue is bitterish, but afterwards of the taste of tobacco; its action is poisonous.

Wintering Hollyhocks (W. L. D.).—The safest mode of wintering the plants is to pot them and plunge the pots in ashes or other suitable material in a cold frame. If the plants are small or of moderate size they can be conveniently potted, but if very large they are less manageable in that respect, and also less likely to winter well. We have left old plants out for years, but always removed a portion of the soil from around them, and added a good thickness of coal ashes, as the water passes through these more freely than it does through soil.

Camellia Buds Falling (H. A.).—When Camellias that are planted in a bed in a house so well ventilated as yours shed the flower buds at this season of the year, there is something wrong in the soil, the bed, or the watering. Camellias answer in loam, peat, and also in a mixture of both, with enough grit or other hard substance to afford a quick and ready passage to water, care also being taken to drain the bed. When this is well done you can hardly give too much water; but if the drainage be at all inefficient, then bud-dropping and yellow foliage soon follow. The fact that plants in pots also shed their buds soon after they are brought into the house points to overwatering. A hot dry atmosphere induces bud-shedding among greenhouse plants. Camellias require no artificial heat, only for the exclusion of frost.

Passiflora edulis (M. R. R.).—As an ornamental roof-covering plant it is to be feared that *P. edulis* has frequently given place to less worthy objects. It is not easy to find a plant more beautiful than this, with its elegant pendant shoots laden with flowers and fruit, which hang with an airy gracefulness from the roof of a suitable glass structure. The plant is, moreover, of very easy culture. It should be raised from cuttings in preference to seed. Seedling plants grow freely enough, and soon cover a large space, but they are sparse in blooming compared with plants which have been raised from cuttings. Short-jointed young shoots root quite easily any time during the summer if put in sand under a bell-glass, and attended to by the requisite amount of heat, shade, and moisture. A suitable compost for established plants is turfy loam two-thirds, the remainder leaf mould, peat, and decayed cow manure.

Anemones in Pots (J. C.).—The roots should be potted without delay, placing them about 1 inch deep in good loamy soil, with a fifth of well-decayed manure intermixed with a sixth of sand. They may be placed about 1 inch from the sides of the pot, and 2 inches apart around and inwards. The soil should be moist, and a good watering given after potting, standing the pots on and plunging in ashes in a cold frame. There they may remain, with air on all favourable occasions, and protection from frost and during severe weather until they are well rooted and have made a little top growth, when they may be placed on shelves close to the light so as to prevent their drawing, and where they will have a free circulation of air, keeping the plants duly supplied with water, and affording weak liquid manure occasionally. Anemones do not stand much forcing, but the flowering may be accelerated by placing them, after they are somewhat advanced in growth, in a house in a light, airy position with a temperature of 45° to 50°.

Establishing an Evergreen Hedge (S. G. E.).—For good appearance, or for shelter, or as a blind, Arbor Vitæ is as good a hedge as any, and is the cheapest, and the easiest obtained of all our hedge plants; but it is not so good as Holly and Yew against cattle. Inside a garden it is the least hurtful hedge to anything near it, and it would grow luxuriantly in soil that would starve a Thorn hedge, and in your case it will be the best succession to the old Hollies, Laurels, and Bays. The roots of Laurels, however, are as bad as any poison if any of them are left in the ground. Therefore, take good heed that every morsel of the Laurel roots, at all events, and all the other roots if you can, are taken out, and that will be a sufficient preparation for the new hedge of Arbor Vitæ; but you should plant it in fresh surface soil, and must not use plants under 3 feet high, 4 feet high being the right size to make a 5-foot-high hedge in two years, or at the very farthest in three years. At 3 feet high the plants should stand apart 18 inches from centre to centre, and 4 feet high 1 foot 9 inches centre from centre.

The Culture of Osage Orange (H. S.).—The following plan is adopted in South America. The plants are always raised from seeds. Sow the seeds in drills, having first soaked them in warm water for forty-eight hours, and place them thinly between damp cloths, where they may remain warm and moist, until indications of sprouting are seen. The time for sowing is immediately after corn planting time, or after the soil becomes warm. The preparation of the seed by soaking and sprouting should commence two weeks earlier. The rows in which the seeds are to be planted should be 3 feet apart, and the seeds be sown about an inch asunder in the row, and keep the plants entirely free from weeds. In the autumn cut the tops about 4 inches above the surface, and the roots about 8 inches below ground. Dig, and after sorting according to size, heel-in the earth in a dry place, covering the tops with litter and earth to prevent freezing. In the spring they are planted in a properly prepared hedgerow, where they are to remain. Some growers tie loosely in small bundles of, say, fifty plants each, and setting upon their roots cover all with earth, tops and bottom. Heeling-in is preferable. The usual distance apart to plant in the hedgerow is about 10 to 12 inches. Pack the earth firmly about the roots, and deep enough that when the earth settles the yellow portion will be entirely below ground, or about 2 inches deeper than they originally stood.

Apples for Profit (Edmund).—The idea of having Bramley's Seedling as a "breakwind" is excellent, it being very hardy, and, perhaps, the most profitable of all Apples. Bismarck, next to the Bramley's Seedling, these being standards, as half standards, is also good, though we should prefer Newton Wonder, as late fruit is more profitable than even varieties that come into use at Christmas. For dwarfs, bushes on Paradise stocks, your selections, Cox's Orange Pippin, King of the Pippins, Lord Grosvenor, Worcester Pearmain, Lane's Prince Albert, Gascoyne's Scarlet, and Devonshire Quarrenden are excellent. We should add White Transparent, Duchess of Oldenburg, and Blenheim Orange, which last, though slow in coming into bearing, is one of the most popular and useful Apples.

Mortar for Setting Boiler (P. K.).—You should procure fire clay, such as used for making firebricks, which is kept and sold by the chief builders or dealers in building materials. Failing this, you may use the following preparation:—Chalk sixty parts, lime and salt of each twenty parts, sharp sand ten parts, blue or red clay and clean iron filings of each five parts; grind together and calcine. After calcining mix with water to mortar consistency. As the calcining may be inconvenient the following may be used:—Powdered clay 6 lbs., iron filings 1 lb.; mix into a paste with linseed oil, and use directly as made. For general purposes a mortar formed of one part of lime, one of sharp sand, and one of smithy ashes answers well, water of course being used to form the required mortar.

Coboea scandens Flowers not Expanding (H. D.).—This ornamental rapid growing climber is subject to produce nothing but calyxes, both under glass and in the open air, which probably arises from the plant making too free growth, the soil being too rich and kept too moist. A free and moderately rich soil is necessary, two parts turfy loam, with a part of well reduced leaf mould and a sixth of sharp sand, incorporated, should grow it well. It does best if planted out, but, at the same time, it thrives in large pots. In autumn the long shoots can be pruned back, and fresh growth will be made in spring. The plant should be grown in full exposure to light, keeping on the dry rather than the wet side, so as to induce a free-flowering habit, and when coming into flower should be supplied with weak liquid manure.

Pruning Black Currants (J. D. P.).—The shoots should be thinned out when they are too thick, and without shortening those left; but when they are not too numerous but very long, to encourage the production of young wood, they should be cut well back; and in order to keep the young trees low and well furnished with bearing shoots, the young shoots should be shortened one-third or one-half their length. It is easy to thin them out, but not so easy to obtain young shoots from the bottom without losing a year's crop. The straggling bushes of former days are no longer imitated, the present mode being to shorten the young shoots, to keep the bushes dwarf and symmetrical, and by it even finer fruit is produced, as it is borne on young wood. Cut out the old wood, encourage young shoots, shorten them, and, if they become too numerous, thin out.

Pear Winter Nellis (W. T.).—This valuable dessert Pear has been grown in the gardens of this country for over eighty years, having been introduced from Belgium in 1818. Its present popularity is sufficient proof of its excellence, and it holds its own as firmly as ever among the many varieties that rank as high-class Pears. This Pear is not only of superior quality, but the tree is hardy and bears freely, and there is no garden in which late Pears ripen that should not contain a tree or trees, according to the form in which they are grown and the demand for fruit. From cordons on the Quince stock we have gathered fruit of the first order of merit, and about equally good produce from large trees on the Pear stock. In favourable localities valuable fruit is produced by pyramids, but in most districts the trees should have the shelter of walls. The fruit with good management may be had in use over a long period. We have from one tree had a daily supply for two months, obtained by placing a few at a time in a high temperature, and the quality during the whole period gave great satisfaction. The following is the description of this fine old variety:—Fruit below medium size, roundish-obovate, narrowing abruptly towards the stalk. Skin dull green at first, changing to yellowish green, covered with numerous russety dots and patches of brown russet, particularly on the side next the sun. Eye open, with erect rigid segments, set in a shallow depression. Stalk from 1 to 1½ inch long, curved, and set in a narrow cavity. Flesh, yellowish, fine grained, buttery and melting, with a rich, sugary and vinous flavour, and a fine aroma. It is now in season.

Names of Fruits (J. O.).—1, Warner's King; 2, Bramley's Seedling; 3, Gloria Mundi; 4, Tower of Glamis; 5, Roundway Magnum Bonum; 6, Gloucestershire Costard. (H. P.).—1, Cox's Orange Pippin; 2, Golden Winter Pearmain; 3, Margil; 4, Court Pendu Plat. (D. J.).—1, New Northern Greening; 2, Norfolk Beefing; 3, Gascoyne's Scarlet Seedling; 4, Herefordshire Pearmain; 5, Newton Wonder. The Pear is Beurré Diel. (W. H. W.).—1, Stone's or Loddington Seedling; 2, Tyler's Kernel; 3, Emperor Alexander; 4, Dumelow's Seedling, known also as Wellington and Normanton Wonder; 5, Bramley's Seedling; 6, Catshead. (Z. B. A. Z.).—1, Decayed beyond the possibility of identification; it is certainly not Doyenné du Comice; 2, Pitmaston Duchess; 3, Winter Hawthornden. (L. J. P.).—1, Probably a small fruit of Reinette du Canada; 2, Lady Henniker. The Pears were all too far gone for recognition, possibly they are 3, Louise Bonne de Jersey; 4, Swan's Egg; 5, unknown.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Tyro*).—We have repeatedly warned our readers against posting flowers for naming on Saturday, as this involves lying in the post over Sunday. Yours were quite dead; send fresh ones and we will gladly assist you. (*M. C. C.*).—1, *Asparagus plumosus nanus*; 2, *A. deflexus*; 3, *A. Sprengeri*. (*F. S.*).—1, *Aralia Vietchi*; 2, *Bertolonia guttata*; 3, *Justicia coccinea*. (*L. C.*).—1, *Jasminum nudiflorum*; 2, *J. revolutum*. (*E. D.*).—1, *Impatiens Sultani*; 2, *I. Hawkeri*; 3, *Tradescantia species*; 4, *Adiantum concinnum*.

Covent Garden Market.—November 28th.

Average Wholesale Prices.—Fruit.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, table, $\frac{1}{2}$ bush. ...	2	0	to	4	Oranges, case ...	6	0	to	15
„ cooking, bush. ...	1	6		5	Peaches, doz. good size ...	6	0		9
„ Californian, case ...	7	6		9	Pears, crate ...	3	0		7
Chestnuts, bag, from ...	5	0		15	„ stewing, case of				
Cobnuts, doz. lb., best ...	4	0		5	„ 72 to 120 ...	4	6		6
Grapes, black ...	0	6		2	„ Californian, case	24	0		0
„ white ...	1	6		3	„ „ „ $\frac{1}{2}$ case	12	0		14
Lemons, case ...	9	0		16	Pines, St. Michael's, each	3	0		6
Melons, house, each ...	0	6		2	Walnuts, bag ...	4	6		6

Average Wholesale Prices.—Vegetables.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes, green, doz. ...	3	0	to	4	Mushrooms, forced, lb. ...	1	0	to	0
„ Jerusalem, sieve	2	0		0	Mustard and Cress, pnt.	0	2		0
Asparagus (Sprue Grass)	0	8		0	Onions, Dutch, bag ...	4	0		4
„ Paris Green ...	5	6		6	„ English, cwt. ...	5	0		0
Beans, French, per lb. ...	0	4		0	Parsley, doz. bnchs. ...	2	0		0
„ Jersey, per lb. ...	1	3		0	Potatoes, cwt. ...	3	0		7
Beet, red, doz. ...	0	6		0	Rhubarb, doz. ...	4	0		6
Brussels Sprouts, sieve ...	1	0		1	Savoy, tally ...	2	0		3
Cabbages, tally ...	3	0		5	Scotch Kale, bushel ...	0	6		1
Carrots, doz. bnch. ...	2	0		3	Seakale, best, doz. ...	12	0		15
Cauliflowers, doz. ...	1	0		2	„ 2nd, doz. ...	6	0		8
Celery, bundle ...	1	0		0	Shallots, lb. ...	0	2		0
Cucumbers, doz. ...	1	6		3	Spinach, bush. ...	1	0		1
Endive, score ...	1	6		0	Tomatoes, English, lb. ...	0	2		0
Herbs, bunch ...	0	2		0	Turnips, doz. ...	2	0		3
Leeks, bunch ...	0	1		3	Turnip tops ...	0	9		1
Lettuce, doz. French ...	0	9		1					

Average Wholesale Prices.—Cut Flowers.

	s.	d.	s.	d.		s.	d.	s.	d.
Asparagus, Fern, bunch	1	6	to	2	Lily of the Valley, 12 bun.	6	0	to	15
Carnations, 12 blooms ...	1	0		3	Maidenhair Fern, dozen				
Cattleyas, doz. ...	6	0		12	„ bunches ...	4	0		8
Chrysanthemums, dozen					Marguerites, doz. bnchs.	2	0		4
„ blooms ...	1	0		3	„ Yellow, doz. bnchs.	2	0		4
Eucharis, doz. ...	1	6		2	Odontoglossums ...	3	0		4
Gardenias, doz. ...	1	0		2	Roses (indoor), doz. ...	2	0		4
Geranium, scarlet, doz.					„ Red, doz. ...	1	0		2
„ bunches ...	6	0		9	„ Safrano, doz. ...	1	6		2
Lilac, white, bunch, ...	4	0		6	„ Tea, white, doz. ...	1	0		3
Lilium lancifolium album	1	6		2	„ Yellow, doz. (Perles)	2	0		4
„ „ rubrum	1	6		2	Smilax, bunch ...	2	0		4
„ various ...	2	0		3					

Average Wholesale Prices.—Plants in Pots.

	s.	d.	s.	d.		s.	d.	s.	d.
Acers, doz. ...	12	0	to	24	Foliage plants, var., each	1	0	to	5
Arbor Vitæ, var., doz. ...	6	0		36	Geraniums, scarlet, doz.	6	0		10
Aspidistra, doz. ...	18	0		36	„ pink, doz. ...	8	0		10
Aspidistra, specimen ...	15	0		20	Hydrangeas, white, each	2	6		5
Azaleas, various, each ...	2	6		5	„ pink, doz. ...	12	0		15
Boronia, doz. ...	20	0		24	„ paniculata, each	1	0		3
Cannas, doz. ...	18	0		0	Lilium Harrisii, doz. ...	8	0		18
Crotons, doz. ...	18	0		30	Lycopodiums, doz. ...	3	0		6
Dracaena, var., doz. ...	12	0		30	Marguerite Daisy, doz. ...	8	0		10
Dracaena, viridis, doz. ...	9	0		18	Mignonette, doz. ...	8	0		12
Erica, various, doz. ...	8	0		18	Myrtles, doz. ...	6	0		9
Euonymus, var., doz. ...	6	0		18	Palms, in var., each ...	1	0		15
Evergreens, var., doz. ...	4	0		18	„ specimens ...	21	0		63
Ferns, var., doz. ...	4	0		18	Roses, doz. ...	6	0		18
„ small, 100 ...	4	0		8	Stocks, doz. ...	8	0		12
Ficus elastica, each ...	1	6		7					



Farming Without Capital.

IF we were asked what in our opinion, next to foreign competition, has been the chief agent in bringing farmers to ruin, we should without the least hesitation say "want of sufficient capital." Thirty years ago it was comparatively easy for a tenant to take a farm and start with barely enough money to pay the outgoing tenant's claims and buy the necessary horses and implements wherewith to work it. It was comparatively easy, we say, for him to rear up a stock of cattle and sheep from the annual profits, and in a few years find himself with a farm which has stocked itself and a bank book with the balance on the right side. With a good farm at a reasonable rent many a farmer has done this, and we could mention several instances. But, alas! that was a fleeting era of prosperity, and scores and hundreds of others emulating their example and imbued with the idea that farming spelt fortune, tried the same experiment with very different results. The tide of fortune was at the ebb, bad weather added to rapidly falling prices, the other factor necessary to complete their discomfiture, and, instead of a well stocked holding, the lapse of a few years found them selling their keeping to jobbers or more opulent neighbours, whilst the bank book, if inspected, would have told a very sad tale.

Thousands have dropped out of farming who never really were absolute masters of their holdings, and thousands are still carrying on an unequal struggle under similar conditions. Although a farmer does not make such constant use of his cheque book as a merchant does, or turn over very large sums through his banker, yet he is looked upon by the latter as a fairly safe customer, and one to whom a large overdraft may be allowed. This is pleasant enough for the impecunious tenant, but the charges each January and July for interest and commission when entered in their proper place in the balance sheet have a sad way of spoiling its appearance. Scarcity of labour is considered to be the chief agricultural difficulty to-day, but a farmer would be better without men than without money, for with the latter he is master of himself and of his own actions, and can purchase machinery to take the place of men as far as possible.

We know tenants at the present time who are as far backward with their rents as their landlords will allow them to be, who have to sell lambs to find money for harvest wages and buy lambs again to put on Turnips in October as soon as the relieving officer—i.e., the threshing machine—has paid a lengthened visit to the stackyard. They sell everything prematurely because they are compelled to do so. The corn merchant gets good bargains by buying their grain and advancing the larger portion of the money on the day of purchase; the Potato merchant gets a similar pull by buying the crop long before it is ready for market and making a substantial advance upon it; the cattle dealer is conveniently handy when money is wanted, and though the stock offered him may not be in very saleable condition he will regulate the price to meet the case, and having grass or yard keep waiting to meet just such emergencies he can accommodate the farmer by acting in a capacity which is very nearly related to that of a pawnbroker.

As a fact in many cases the stock remains on the farmer's premises or land, the dealer paying a small agistment and reselling the stock to the farmer at a good profit when the latter is again in funds. But someone will say, "Why! bank interest and commission would be cheaper accommodation than this." Yes, so it would; but in such cases the credit at the bank will already have been stretched to its utmost limit.

Then there is the purchasing side of the account. Cash payments and consequent cutting down of prices to the lowest point being not only impossible, but credit having already been accepted from the manure merchant, seed merchant, and other tradesmen, all the articles required and bought for the farm have been and are bought at full credit prices, and the difference between these and those quoted for cash it does not require a Daniel to discern.

Many retail manure and seed merchants make a living by allowing long credit to farmers, two and three years' credit not being at all uncommon. The dealer purchases from the manufacturers for cash, and, in order to make his interest for money, his profit, and a margin for bad debts, naturally makes the retail price a very stiff one.

That large numbers of farmers are bound hand and foot to the credit system we are convinced, and a proof is the extreme difficulty with which a farmer can be persuaded to purchase from a new firm; it is not only his innate conservatism that accounts for it, but the fact that he cannot afford to leave the old firm and pay the shot.

We have quoted very extreme cases, but there are thousands of others which differ from them only in degree. There are men who have farmed all their lives, and kept their heads above water, and been looked upon as prosperous and well-to-do men, who have never known what real and true independence meant, have never been free from bondage to the merchant, and, maybe, to the landlord, and have never been in a position to buy and sell absolutely at the best time or in the best way, so as to make the best of the stock and crops which they have worked so hard to rear and grow.

Farms, notwithstanding the depression, have not been so plentiful on the market that a would-be tenant could always obtain just the holding that suited his requirements and pocket, and when the choice has lain between one too large and another smaller than his ideal, the lot has too often fallen to the larger undertaking; he has taken a gambling risk to win or lose, for taking too large a farm and trusting to luck is gambling pure and simple.

With high prices for grain has passed away all chance of making large profits out of agriculture, and we are sure that in the future only those who have their farms well in hand, whether large or small, will be able to sustain the struggle against modern competition and make a living on the land.

Work on the Home Farm.

November may be called the dull season in agriculture, for the daily and weekly task now attain a sort of monotony which lasts until January is out. We have heard a foreman complain bitterly of the dullness of farm work in winter, but we ourselves, though finding the appearance of the fields dull enough, and horse work less interesting than in summer, find a visit to the Turnip fold or to the cattle in the yards a never ending source of pleasure, particularly so late in the afternoon when the yardman has got all fed and is just putting his shovels, hampers, and buckets away for the night, and every animal is contentedly absorbing a good meal, chewing being the only audible sound.

Martinmas, with its hiring fairs, is a thing of the past once more, and we must again record extreme difficulty in obtaining servants. Wages have again risen, but farm men are so scarce that it is almost impossible to get them at any price. Any young lad who can feed and groom a pair of horses and guide a plough may command from £16 to £20 per annum, while plenty of waggoners get £30 and £35 in addition to board, lodging, and waggoning fees. Farmers are trying to do with as few men as possible, but some they must have.

Extra hands for threshing days now require 3s. 6d. per day with bread and cheese and sundry pints of ale. The farmers of our village are making a stand against such prices, and have arranged to help each other and do without extraneous assistance. Large imports of foreign Potatoes have put a decided damper on the trade, and for two or three weeks there has been a lull in the loading of home grown; whether it is that the foreigners are not satisfactory to the consumers we know not, but once more there is movement amongst the pies, and the women are again in constant work.

Swedes are still growing rapidly, and some crops will surely approach record dimensions. We are very much struck by the uniformly large size of those we see our neighbours carting home. Sheep are doing very well. Trouble amongst the lambs, or rather we may now say hoggs, is happily passed away, and the flockmaster may begin to count his saleable sheep with some certainty. Losses have been greater than we had supposed. We met a farmer a day or two ago who had lost twenty out of eighty, surely a serious diminution in the prospective income of a small holding. Store sheep are dearer than ever, and store cattle have not been so scarce and dear in November for many years. Considerable numbers of cattle are still out at grass. They may do fairly well, but should have some kind of added food from the yard, hay or cake.

Notwithstanding the mild season eggs are very scarce, but hens have got well over the moult, and are looking well and healthy, so with good forcing food we may have a better supply before Christmas.

Webb & Sons' Root Competition.

THE awards in the above competition for the valuable prizes offered by Webb & Sons, Wordsley, Stourbridge, for root crops grown from their seed and with the aid of their special manure have just been decided. The judges were Mr. E. Bennett, Patshull Farm, Wolverhampton; Mr. W. Hier Evans, Radyr Court, Llandaff, Cardiff; and Mr. Lewis Roach, Quatt, Bridgnorth.

District 1.—Five acres of Webbs' Swede, open to the counties of Salop, Stafford, Montgomery, Warwick, and Leicester. First prize, £15 15s., Mr. F. H. Sbarrod, Cherrington Manor, Newport, Salop, 35 tons, 5 cwt., 2 qrs., 24 lbs. per acre; second prize, £10 10s., Mr. W. Nunnerley, Kenwick, Ellesmere, Salop, 34 tons, 7 cwt., 0 qr., 16 lbs. per acre; third prize, £5 5s., Mr. Edward James, Donnington Farm, Newport, Salop, 27 tons, 14 cwt., 1 qr., 4 lbs. per acre. Three acres of Webbs' Mangold, prize £5 5s., Mr. J. E. Weaver, Stone Mill, Stone, Staffs., 58 tons, 12 cwt., 3 qrs., 12 lbs. per acre.

District 2.—Five acres of Webbs' Swede, open to the counties of Hereford, Monmouth, Brecon, Glamorgan, Carmarthen, and Pembroke. First prize, £15 15s., Mr. John Davies, Hardens Down, Reynoldstone, R.S.O., Glam., 35 tons, 12 cwt., 3 qrs., 12 lbs. per acre; second prize, £5 5s., Mr. A. F. Partridge, Wharton Court, Leominster, 33 tons, 5 cwt., 2 qrs., 24 lbs. per acre. Three acres of Webbs' Mangold, prize £5 5s., Mr. Philip Price, Howick Farm, Chepstow, 63 tons 10 cwt. per acre.

District 3.—Five acres of Webbs' Swede, open to the counties of Oxon, Berks, Bucks, Wilts, Hants, Surrey, Worcester, and Gloucester. First prize, £15 15s., Mr. H. W. Stilgoe, The Grounds, Adderbury, Banbury, 30 tons, 8 cwt., 2 qrs., 8 lbs. per acre; second prize, £5 5s., Mr. J. R. Butler, Churchill, Kidderminster, 30 tons, 5 cwt., 2 qrs., 24 lbs. per acre. Three acres of Webbs' Mangold, open to the counties of Oxon, Berks, Bucks, Wilts, Hants, Surrey, and Worcester. Prize, £5 5s., T. Simpson Jay, Esq., Warren Farm, Wimbeldon, 54 tons, 1 cwt., 1 qr., 20 lbs. per acre.

District 4.—Three acres of Webbs' Mangold, open to county of Gloucester. Prize, £5 5s., Mr. F. Rymer, High Woolaston, Lydney, 42 tons, 14 cwt., 1 qr., 4 lbs. per acre.

District 5.—Five acres of Webbs' Swede, open to the county of York. First prize, £10 10s., Mr. W. Scorer, Skelton, Ripon, 34 tons, 8 cwt., 2 qrs., 8 lbs. per acre; second prize, £5 5s., Mr. J. Barker, Ellerton Hill, Scorton, 33 tons, 2 cwt., 3 qrs., 12 lbs. per acre. Three acres of Webbs' Mangold. Prize, £5 5s., Mr. W. Moore, Holtby Manor, Dunnington, York, 49 tons, 10 cwt. per acre.

District 6.—Five acres of Webbs' Swede, open to the counties of Norfolk and Suffolk. Prize £10 10s., Mr. T. Kidner, Halvergate Hall, Norwich, 39 tons, 4 cwt., 1 qr., 4 lbs. per acre. Five acres of Webbs' Mangold. Prize, £5 5s., Mr. S. Nightingale, Scratby Hall, Great Yarmouth, 39 tons, 14 cwt., 1 qr., 4 lbs. per acre.

District 7.—Five acres of Webbs' Swede, open to the counties of Bedford, Cambridge, Cornwall, Cumberland, Cheshire, Derby, Devon, Dorset, Durham, Essex, Herts, Huntingdon, Kent, Lancaster, Lincoln, Middlesex, Northumberland, Notts, Northampton, Rutland, Somerset, Sussex, Westmoreland, Cardigan, Carnarvon, Denbigh, Flint, Merioneth, and Radnor. First prize, £15 15s., Mr. S. S. Raingill, The Grange, Ringway, Altrincham, 48 tons, 8 cwt., 2 qrs., 8 lbs. per acre; second prize, £5 5s., Mr. W. Little, Oulton Hall, Wigton, Cumberland, 40 tons, 11 cwt., 1 qr., 20 lbs. per acre.

District 8.—Five acres of Webbs' Swede, open to the counties of Roxburgh, Haddington, Berwick, Edinburgh, and Linlithgow. Prize, £10 10s., Mr. John Meikle, Grougfoot, Linlithgow, 31 tons, 17 cwt., 0 qrs., 16 lbs. per acre.

District 9.—Five acres of Webbs' Swede, open to the county of Perth. First prize, £10 10s., Mr. John McLaren, Powside, Errol, 33 tons, 10 cwt., 2 qrs., 24 lbs. per acre; second prize, £5 5s., C. A. Murray, Esq., Taymount, Stanley, 32 tons, 8 cwt., 2 qrs., 8 lbs. per acre.

District 10.—Five acres of Webbs' Swede, open to the counties of Forfar, Fife, and Kinross. Prize, £10 10s., Mr. James Auchterlonie, Leckerstone, Dunfermline, 34 tons, 0 cwt., 2 qrs., 24 lbs. per acre.

District 11.—Five acres of Webbs' Swede, open to the counties of Aberdeen, Banff, Kincardine, Inverness, and Elgin. Prize, £10 10s., Mr. G. A. McLean, Westfield, Elgin, 33 tons, 4 cwt., 1 qr., 4 lbs. per acre.

District 12.—Five acres of Webbs' Swede, open to the counties of Dumfries, Kirkcudbright, and Wigton. Prize, £10 10s., Mrs. A. Craig, Cumstown Mains, Kirkcudbright, 42 tons per acre.

District 13.—Five acres of Webbs' Swede, open to the counties of Stirling, Dumbarton, and Clackmannan. Prize, £5 5s., Mr. Alex. Lucas, Craigton Farm, Causewayhead, Stirling, 34 tons, 14 cwt., 1 qr., 4 lbs. per acre.

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Journal of Horticulture.

THURSDAY, DECEMBER 6, 1900.

Garden Roses.



THE Rose has ever been regarded as a favourite English flower, but at no time has this appreciation been more marked than during the past summer. To some persons the term "garden" Rose as here applied may appear a little strange, as all

Roses are undoubtedly garden flowers.

What is more generally recognised as a garden Rose is a variety remarkable for the ornamentation of the garden itself by the profusion of flowers, as apart from the individual quality of each bloom judged from the florist's standpoint. Not only are the varieties which I shall enumerate valuable as decorative objects in the garden, but they are equally useful and appreciated in a cut state for the adornment of the dwelling house. If evidence were wanting of the popularity of this section one has only to note the stream of visitors passing a leading exhibit of these garden Roses, and observe how they cluster, inspect, admire, and carefully note the varieties. They do not do this in the case of an ordinary stand of H.P. or even Tea-cented varieties.

Apart from the deep interest taken in garden Roses on the exhibition table, their value at home in the garden is almost unlimited. For covering pergolas, arches, unsightly screens and training up poles the climbing section are invaluable. For covering banks, steep slopes, and even rockeries, the dwarf-growing forms of Tea, China, Cluster, or Polyantha varieties are indispensable, not forgetting the rugosa section, which supply thick growth and huge masses of colour, not only when in bloom, but when the plants are laden with fruit in the autumn. All these types or sections come conveniently under the head of garden Roses.

In a cut state, when pleasingly associated with their own foliage, tender, tinted growth shoots, or other desirable greenery, all forms of garden Roses are appreciated. Even here their beauty can be emphasised by employing each variety in huge

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masses. The point about the cutting of all these Roses for vase decoration is to select perfectly formed yet small buds, not fully developed blossoms.

For extremely late cut-of-door flowering no type of Rose can compare with the various forms of China (*Rosa indica*), such as the old Blush and Crimson. If the weather is at all mild and fairly dry flowers in abundance can be gathered from bushes in the open as late as Christmas. At Sandringham, where these Roses are great favourites, immense quantities are gathered yearly. As many as 2000 blooms of the pink variety were gathered the day before Christmas last year. To obtain a succession of bloom over a long period from these plants, directly their first flush of flower is past the plants are pruned slightly back, which induces them to start afresh into growth and subsequently into flower.

To insure success in the culture of garden Roses the same conditions must be secured as for other types—viz., liberal treatment as to strong soil and abundance of manure. Freshly cut turf, decayed vegetable refuse, wood ashes, and manure are essential when planting. With this type of Rose it is a continuance of vigour in successional growth that produces continuous blossom. Soil lacking in manurial properties cannot prove successful, and many failures might easily be traced to this cause. Early planting is an advantage, as new roots quickly form in the autumn, thus enabling the plants to become established. Couple with early planting a thick mulching of half-decayed stable manure, and close pruning the first year, and we have the salient cultural details. To assist intending planters I enumerate the varieties in such a manner as to classify them into types or sections.

The climbers constitute a fast increasing section, including evergreen varieties, which are particularly useful when covering walls and screens. Crimson Rambler deserves the post of honour, as it would be difficult to imagine a more beautiful object in any garden than this brilliant crimson, almost evergreen variety. One caution I would give, which is, not to put Crimson Rambler against a wall, as it is much prone to red spider attacks. Carmine Pillar is a grand companion to the former, although the flowers are single. The colour, a vivid rosy carmine, is pleasing, and the habit of growth is all that could be desired; shoots 12 feet long are often made in one season. Euphrosyne, commonly named the Pink Rambler, is a charming variety, quite unique in its colouring. The small blossoms open pink, changing to carmine and bright red as they expand; the numerous yellow anthers give the flowers a charming appearance. The habit of growth is vigorous, carrying much foliage, which renders this a good variety for a pergola or an upright pole. Aglaia is termed the Yellow Rambler, but I am disappointed in its colouring; it is a dirty white or very faint yellow, yet of vigorous habit and valuable for covering space.

Ainée Vibert continues the display of its pure white clusters into the autumn, and is enhanced by its evergreen foliage. Claire Jacquier, nankeen yellow, carries small flowers, freely produced; it is a strong climber, good for arches or trellises. Longworth Rambler is, perhaps, more continuous flowering than any other variety of climbing Rose. Seldom can a vigorous plant be found without a flower upon it. The colour is pleasing, too—deep crimson. Morleti, with its large, semi-double, rose-coloured Boursault blossoms, deserves a place in any garden. Dr. Rouges is a Tea variety with deep red orange coloured shading. The Hybrid Tea Reine Olga de Wurtemberg has vivid red semi-double flowers; it is of vigorous habit. Psyche is an English raised seedling from Crimson Rambler, the colour pale rosy pink suffused at the base of the petals with salmon and yellow. Reine Marie Henriette, deep carmine, long pointed bud of good shape, is one of the best red climbing Roses. Félicité Perpetué, creamy white, beautiful, small, and full. Polyantha simplex and P. grandiflora are both magnificent single-flowered pure white varieties. This list cannot be complete without the inclusion of The Garland, or Hybrid Musk Rose, colour nankeen and pink, changing to white, small, semi-double, produced in huge bunches.—E. MOLYNEUX.

(To be concluded.)

Greenhouse Tropæolums.

ALL are agreed as to the desirability of variety, especially of colour, in the decoration of greenhouses and conservatories; and this object should be aimed at as much in winter as summer—indeed, to my mind more so at the former than the latter season, for we have in winter fewer flowering plants to choose from.

Tropæolums are plants of easy management, and when once a person understands their mode of treatment they can be so managed as to add much to the decorative effect of the greenhouse. Where I first became acquainted with this class of plants they were held in high estimation, and great care was bestowed, particularly in propagating them. This was done by taking off the young and tender points of their growth, inserting them in pure white sand, kept moist, under bell-glasses, where a moderate bottom heat could be maintained. It required a watchful eye to make them succeed well; and when they did form their small tubers it was some years before they could, from their size and strength, give much flower, however desirable it was to have them blooming in winter, with their singular yet very pretty colours.

About fourteen years ago I went to live in a part of the country where a neighbour was skilled in growing Tropæolums, and I will now very briefly detail his practice, remarking that, from my friend's success in their cultivation, I was induced to try the same mode. It is now more than ten years ago, and I have not yet had any reason to abandon this line of treatment.

Supposing that we have four ordinary-sized tubers or roots of tricolor or Jarratti that we wish to grow, each tuber in a separate pot, and are likewise desirous of increasing them whilst having as many flowers upon them as they can produce, proceed as follows:—Take some good fresh turfy soil, with a little fibrous peat chopped rather small, and a good portion of silver sand, all well mixed together, so as to be a nice fibrous mixture, such as will not be too close or become sodden. Having the compost all ready, the next proceeding is to take four pots, about 8 or 9 inches in diameter at the top, to drain them well, placing moss or some similar material over the drainage, and then to fill the pot rather more than half full of the compost. Place the root into this, having the crown of the tuber nearly covered, so that you can see when it begins to grow. A strong root will often give several shoots or growths. Let them proceed, and when they are 6 or 8 inches long put in the stake or wire trellis on which the plant is to grow, as if delayed longer the growths of the plant might be injured in putting in the trellis, owing to their being covered with soil. The trellis having been put in, the next proceeding is to lay the young growth or growths across the soil in the pots, carefully covering them over with the same kind of soil; and as they grow turn them from side to side in the pot, gradually letting them rise higher to the top of the pot, and of course adding more soil each time. When done in this way, carefully bending them where there is a joint in the slender stem, they will generally form a little bulb at every joint.

Now to give an outline of how my friend grew his pots of Tropæolums. He generally had his in pots from 12 to 16 inches in diameter, and had the compost much the same as that which I have described. Into the large pots he often placed an inverted 3-inch pot at the bottom, and filled in an inch thick of potsherds. Over this he placed some moss, and then filled the pots three parts full, or rather more, before he put in the tubers. Into the largest pots he would put six or eight good-sized roots, just covering them over, and placing them in a circle about an inch from the top. After they were started, and 6 or 8 inches long, he put in the top of a compactly grown Larch tree, perhaps from 3½ to 4½ feet high, or the top of a Holly tree from which all the leaves had been carefully removed, and as the plants grew he covered them over with the same kind of compost, still inclining them towards the stem of the Larch tree on which they were to grow. He allowed them to ramble all over it, and in this way the plants produced a charming effect in a conservatory.—D. G.

**Cypripedium Priam.**

THIS *Cypripedium* was exhibited at the Drill Hall, Westminster, on November 20th, by Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nursery, Chelsea, and was recommended the first-class certificate of the Royal Horticultural Society by the Orchid Committee. It is one of the most beautiful *Cypripediums* we have seen of late, the dorsal sepal especially being really exquisite. This organ is of considerable size; the colour is pale green at the base, whence radiate in lines small crimson spots that pass up into the pure white with which the small green patch is encircled. The petals are shining crimson brown, with numerous brown spots at the base; the pouch is of similar colour. *Cypripedium Priam* (fig. 129) is a hybrid that was obtained by Mr. Seden from a cross between *C. x Niobe* and *C. insigne Chantini*.

Few things are more interesting to a lover of Orchids than to trace the parentage of a hybrid by its flowers, and although in the case of this delightful plant that was shown by Messrs. Veitch at the Drill Hall on November 20th it would be rather a difficult task to say exactly, yet when the parentage is pointed out one can see the likeness directly. At the first view it looks like a form of *C. Loeanum*, then one notices the drooped petals that show its affinity to *C. Fairrieanum* through the lovely *C. Niobe*, one of its parents. The mention of *C. insigne Chantini* conjures up old memories of the times when yellow insignes were not, and *insigne Ashworthianum*, if in existence at all, had not been raised to its high pedestal of fame. In those days we thought much of such forms as *C. insigne Maulei* and *Chantini*, and the latter, used in conjunction with *C. Niobe*, has given us this beautiful hybrid so well described on page 462, November 22nd. The plant shown by Messrs. Veitch was only a small one, but it looked very healthy. It will be very interesting to note as time goes on how far the increased vigour enjoyed by hybrids will be maintained in those of the second or third class; whether hybrids raised from closely related parents such as *insigne* and *Loeanum* will be as vigorous as those from parents quite unrelated—if such a thing is possible.

Treatment of Deciduous Calanthes.

There is not the slightest need to water these petty Orchids at all after the foliage has fallen, although the flowers are not all open. In the large fleshy pseudo-bulbs ample nutriment is stored for the maintenance of the latter, and in at least the majority of cases the roots are dead or nearly so by the time the last leaf has fallen, new tiers being produced from the young growths annually. Watering then is not only needless, it is very harmful, and likely to cause decay of the base and spotting in the young growths.

Then again in standing the plants about in cold, draughty places much harm may accrue. The plants—or their parents in the case of hybrids—are not cool house species at all, they come from some of the hottest regions, and to expect them to do well under such conditions

is folly. In no case of course is the injury at once apparent; it is all too plain though in spring, when the plants commence to grow, and then very often other causes are assigned for the mischief. With regard to the time for potting, I believe in getting them into their new quarters directly the flowers are past. Nothing is gained by leaving them in the old material, and they may on occasion be injured owing to the roots having started before the potting was carried out.

There is no need because the plants are repotted to endeavour to start them into growth. Let them rest just the same, for the dry treatment that would mean mischief to plants with roots in an active condition is just the right thing for those that practically have no roots. Respecting the planting compost, there is not the least need for the very heavy and rich mixtures sometimes advised. I have never seen that the flower spikes were any better from bloated-looking pseudo-bulbs a foot, or nearly so, high of *C. Veitchi* than from more naturally grown plants, while the plethoric plant is usually the first to succumb to disease.

Better by far be content, then, in safety with moderate sized bulbs than run a risk with big ones. Equal parts of peat, loam, and chopped sphagnum moss, with a good sprinkling of ballast or crocks in lieu of the sand so often used, will be quite rich enough. If necessary, in summer the plants may be fed a little with well-diluted liquid manure, or a slight application of chemicals, but it is very easy to overdo this. A thorough cleaning of the bulbs previous to repotting is always well repaid by the lessened risk of insect attacks upon the young green foliage.

Oncidium Mantini.

There are many forms of Brazilian *Oncidium*s more or less distinct that doubtless owe their origin to crosses in a wild state. They are natural hybrids, to use a common term, but it would be very difficult to say where the difference is between a natural hybrid and a—so-called—distinct species. Fortunately this does not detract from their beauty in the least, and as many of this section are at their best during the duldest and dreariest part of the year, their value to cultivators is thereby enhanced. There are few plants brighter or more beautiful than this, several small specimens of which were exhibited at the Drill Hall on November 20th.

It belongs to the *O. crispum* section, and has not been so frequently imported as the type and many others. Like most of its compeers, it is very free flowering, and takes a lot out of itself in doing so. The blossoms are chestnut brown margined with yellow, the latter colour being more displayed upon the lip. To grow it well a position near the roof glass in an intermediate house is usually selected. The roots are only moderately vigorous, and the plants will be found healthiest when these have a good hold on the compost. This is most likely to take place when the latter is thin, and trellised blocks lightly dressed, or small pans give these conditions admirably.

Habenaria carnea.

Very beautiful are the flowers (fig. 130) and foliage of this species, and it is a pity that more growers are not successful in the culture of this and nearly allied sorts. The leaves are deep green with greyish white spots, and the blossoms are a charming rosy flesh tint fading to white. The near relationship to our own native Butterfly Orchids should point out the error of keeping the tubers of this and kindred sorts quite dry in winter, and yet this has been in many cases the one fault that has led to their failure. Too much moisture will not do, especially if joined with a low temperature, but too little will kill the tubers outright.—H. R. R.



-FIG. 129.—CYPRIPEDIUM PRIAM.

The Care of Roots.

I NEED not stop to explain that "roots" is here used in a limited sense, certain trees being mainly in the writer's mind, and the more important of these fruit-bearing trees. More than one cultural process goes to render fruit trees annually fruitful, but each and all of these may be rendered nugatory if one is so unwise as to permit the roots to remain untended, unthought of, and uncared for. The need there is for root cultivation, which includes pruning as well as other phases of treatment, is so pressingly urgent to those who understand its value, that they become sometimes impatient of others who waste all their other labours through neglecting this one important matter.

Having once again arrived at the period that roots are most effectively dealt with, it will be most convenient to touch first of all on the treatment of young trees. The rule is a good one, to lift young trees twelve months after planting, and it applies to all fruit trees, Apples, Pears, Plums, Apricots, and Peaches. If the trees are making an over-luxuriant growth, lifting and replanting gives the necessary check; or, on the other hand, if the growth has been less satisfactory than seems desirable, the reason for this can be determined, some better soil given, or any other imperfection removed or rectified. This process may be beneficially undertaken, also, in the case of trees two and three years planted, or an interval of two years may be allowed to elapse instead of lifting annually, but two years is certainly the longest interval that should be permitted. And it is to be remarked that the value of transplanting trees in the manner indicated does not lapse with the year that follows, but it remains for very many years, even should no further care be expended on the roots. This occurs, no doubt, from the tree having been obliged to assume a less vigorous though not a less robust habit of growth, from the shoots at this young stage becoming fruitful, and this in turn being perpetuated in succeeding years.

Merely transplanting is of itself a valuable aid, but when the roots are out of the ground the opportunity should be taken to shorten all the stronger ones in order to induce the formation of an increased number of those of a more fibrous nature. Care, however, should be taken to preserve a ball of soil unbroken round the bole of the tree. Peaches, Apricots, and in a less degree Plums and Pears, after having been treated as indicated above, properly planted with the bole shallow rather than deep, regularly attended to with surface dressings and the management of the shoots efficiently ordered, hardly ever require any other attention at the root. In the case of Apples it is, however, different, though, no doubt, some varieties require less attention than others; but generally it may be said that the Apple, in order to produce high-class fruits regularly and abundantly, must not be neglected at root.

After early youth this assumes the process of root-pruning, its simplest form being a trench dug semicircularly at the distance of 3 to 6 feet from the bole of the tree, and sufficiently deep to sever every root within the radius of the operation. Large trees may have only one-third or one-fourth of the circumference cut in one year, and in determining the safe amount to be done at one time, a sound judgment is very necessary, as cases occur where too drastic measures have resulted in death to the trees. This is even more important in the case of those trees that have been neglected when young. If the material thrown out from the trench can be replaced by sound, fresh loam, that would, of course, be of much value; but, as a rule, fresh soil from the nearest quarter is as good as one can hope for. The results following the operation in large trees are invariably the same. In the case of neglected trees, which afford a better illustration of the benefits of root-pruning than those kept under control, fruitfulness succeeds sterility; fruits of poor quality, or imperfect, or diseased, are followed by clean, large, and perfect fruits, and these results are so marked that no one can gainsay the improvements effected.

In the case of trees regularly root-pruned, the benefits are not so marked, but the trees are kept under better control, there is hardly ever a break in the fertility of the trees, and the size and quality of the fruit never vary greatly, while the health of the trees suffers in a less degree from changes of weather in different years, and there is no doubt that canker less easily gains a footing on trees thus cultivated.

One reason, not sufficiently considered, why root-pruning when properly effected, always gives satisfaction is that the young roots produced from the parts operated on have fresh, thoroughly cultivated soil to work in. This may seem a matter of no great importance, but to those who have studied the question of soil cultivation and who have noted the marvellous effects produced by merely breaking up soil thoroughly, it must be apparent that this is one of not the least valuable concomitants of root-pruning. Its importance is very clearly seen in the case of shrubs. If for instance we select two hedges of Yew, one of which we wish to restrain in growth, and the other it is desired should make a more abundant growth. In the latter case the

object may be attained by cutting a trench 3 or 4 feet from the base of the hedge and then fill this either with good soil or manure and soil, and the result will be a great increase of growth. To insure a less growth we have only to cut the roots by turning over a top spit and thrusting a sharp spade to the undermost layer, thus cutting the roots without moving the soil, and equally certain will be the result in this case.

Most shrubs in imperfect health if not too old may be rendered healthy by cutting a trench partly round at intervals of a year or two, till all the circumference has been cultivated. What may appear strange is that a trench cut just outside the roots makes no difference, but cut the roots and the effect for good is not long in becoming apparent, the reason being that not only are a greater number of roots produced but the soil provided for them is in the best condition to promote vigorous vegetation.—R. P. BROTHERSTON.

Wild Flowers of Old English Gardens.—II.

It has been truly said that even a savage might easily learn to recognise a plant of the Cruciferous order; the six stamens, four long, two short, the four sepals and petals, with the cross-like character of the latter, separate it from all other orders, while any wanderer can be sure that if one of these plants may be unpleasant tasted, it cannot possibly be dangerous to life. People have called this the most valuable natural order, certainly it is an important one owing to the many edible species it contains. Considered as a source of ornamental plants, it must take rank below some of our native groups, which exhibit tall and showy flowers, but a number of garden favourites, British and exotic, belong to it, often annuals merely, yet effective grown in quantity. No doubt Cresses and other edible species of the tribe were the first that people sought out, afterwards those merely ornamental received notice. Indeed, it would appear that some did formerly serve for food or medicine, and also for show in a garden, such as the abundant Cuckoo-flower or Lady's Smock.

Some of these plants made their way into gardens uninvited; the Wallflower, for instance, which took up its position on old brick walls, or secured gaps where earth had lodged in walls of flint. Probably our native species is the shrubby *Cheiranthus fruticulosus*, which has its flowers of a uniform golden yellow, but the dark-hued *C. Cheiri* also grows seemingly wild, though it came to us from the Continent. Thus, it has long been familiar in the West of England, and is called there "Blood-red Warrior," so Mr. Friend states, being planted along window ledges on the supposition that it serves as a guard to the abode. Our own Wallflower, in the eyes of our ancestors, who saw it often mantling some old ruin, was an emblem of friendship under adversity. A double flowered variety of this, but still yellow, was shown by Georgian gardeners. Many a wall years ago, as sometimes now, displayed a humbler dweller on brickwork, the little Whitlow Grass, allied to larger species of the genus *Arabis*, that we often see on banks and rockeries. People looked after its starry clusters of pure white flowers in the spring, because the plant was steeped in milk to cure whitlows and warts. It is one of the Crucifers that is rather acrid.

People say that the Penny Cress, or Mithridate Mustard (*Thlaspi arvense*), used to be grown in gardens; possibly it was, for use, if not for ornament. The flowers are small and not conspicuous, but the large pouches are curious, their form and size suggesting a comparison to a silver penny. Its seeds, from their pungency, were mixed into the famed composition called the Mithridate Confection. It formerly grew about Willesden, near London, and I still find it at Gravesend, but rarely. Our native Candytuft also seems scarce as a wild flower; it occurs on chalky fields like the Penny Cress, and had an early place in gardens from the brightness of its white clusters. As an annual, and perennial too, it maintains a position of popularity in several varieties. One of the favourite components of the rustic nosegay in bygone times was the Lady's Smock or Cuckoo-flower, though it is not the only possessor of the latter name. We notice it sometimes scattered over a whole meadow, then singularly disappearing; coming into gardens it was allowed to remain, where, under culture, the flowers became darker, and would assume a double form, as, indeed, they do occasionally if wild. Like the Primrose and Violet, the lilac or white blooms were linked with the spring season, and the topseaten as an adjunct to salads. Its Latin name of *Cardamine pratensis* alludes to a belief that this plant strengthened the heart.

Stocks, of which we have many annual and biennial varieties, the Ten-Week and German being in steady demand, were preceded by our native species of *Matthiola*, which are of maritime habit. The south of England *M. incana* got into some London gardens, but, as Sir J. E. Smith observes, it usually died the first winter. Its attraction was the large purplish flowers, often double. But Miss Plues says that some

gardeners succeeded with it and obtained varieties from seeds or cuttings. Sir J. E. Smith rather commended the Welsh and Cornwall *M. sinuata*, downy, like the other, but also prickly, the flowers duller, biennial in habit, and having an aromatic fragrance after sunset; it requires a sandy soil. We join with these the Dante's Violet (*Hesperis matronalis*) which formerly grew besides the Ravensbourne, near London, and elsewhere, but has always been somewhat rare. Why "matronly," one knows not, and some old botanists called it "inodora," unaware that it is fragrant after rain, and at sunset, hence the generic name. Double forms of it are now grown in borders, and require skill; the single type will succeed anywhere. That it is an old resident in gardens appears from the fact that its seeds had been conveyed to the United States by emigrants during the reign of George III.

Abundant in many of our southern gardens are several of the *Arabis* genus, especially the white Rock Cress, or *A. albida*, sometimes used as an edging when variegated, being evergreen. About London the warmth brings it into flower quite early in mild winters, and it continues to bloom till April or May. Before the exotic species arrived here one or two of the wild species occasionally filled up a bank in a garden or shrubbery. The annual, and common *A. thaliana* likes a dry slope, a wall, or even a cottage roof; the leaves often grow densely, but the flowers make little display. It may be they formerly transplanted from walls and cliffs the Hairy Rock Cress, *A. hirsuta*, which grows on the chalk south of London. This is a plant rather singular in its form, about a foot high, and perennial. Its relative, the Tower Wall Cress (*A. turrita*) is reported to be unable to thrive when removed from the old towers and castles, where it exhibits in May its pale yellow flowers and oddly curved pods.

Presumably the Rockets had their name from their habit of selecting rocky places, though the London Rocket, or Broad Hedge Mustard, thrives on any waste ground. Some years ago a lady was anxious to obtain this plant, so she sent for it to a suburban nurseryman, who replied that he kept no yellow Rockets, as they had gone out of fashion, but he could supply purple or white ones. The Rocket, however, to which he referred would not be the London Rocket, which was probably never cultivated, but that also called the Bitter Winter Cress, or *Barbarea vulgaris*. Some gardeners obtained a double variety of this, which produced flowers with numerous petals, turning white as they faded; it lasted from May to August. Whether people did really eat in their salads this nauseously bitter plant may be questioned, German authorities declare that the English formerly did.

Some of our gardens contain that remarkable perennial, *Dentaria bulbifera*, which resembles one of the Lilies in having bulbs springing from the axils of many of the leaves, and large purple corymbs. The branched and whitish root gave it also the name of Coralwort. It is truly British, but local, and does not seem to have been cultivated till imported: it prefers a moist shady spot, but seldom matures its pods. Most of the Rockets are said to symbolise deceit or trickery, but we have an old garden favourite in the plant called Honesty, or *Lunaria annua*, also in the Cruciferous order; it is occasionally biennial, and we have in gardens a handsome perennial species, fragrant, which has been brought from hills on the Continent. Worthy old Chaucer refers to this plant by the name of Lunary; evidently it was cultivated not only because of the belief that wherever it grew people were honest, it was also credited with the power of keeping away evil spirits. Where it grows seemingly wild, the Sweet Alyssum (*A. maritimum*) is, we suspect, a wanderer from some garden, though it has been reputed a

native; we have several continental species. Probably this was grown, not merely for its honey scent or its beauty, but from a notion that it was a plant the Greeks used to cure poisonous bites.

There is scarcely a flower more conspicuous in our summer fields than the red Poppy, which, however, in gardens can only be regarded as a weed. But the showy appearance of the white Poppy, sometimes 4 feet high, each bluish white petal spotted with violet, led some persons to sow its seeds, and raise plants as a garden ornament. It was discovered before long that the flowers by cultivation could be produced of various tints, and also double. I think the species is a native of Britain, though this has been questioned, for it occurs in so many places, and especially about the Fens. The Welsh Poppy was not likely to be found ornamenting London gardens, but in the west and north of England. Cottagers have fancied it for its beautiful lemon flowers and agreeable perfume; it requires shade and moisture.

Then, the beauty and singularity of the Horned Poppies of the genus *Glaucium* led some to try whether they would grow in a garden, especially *G. luteum*, which at one time could be got on the Thames banks below Gravesend, and elsewhere on sandy shores. The fragile golden petals and stamens have not all gone before the horned pods, about a foot in length, appear on the branched stem. Also our ancestors sought it out, because they made a dangerous medicine from its thick yellow juice. Had it not been rather rare and local, I expect the violet Poppy, *G. violaceum*, would have been cultivated for its splendid yet very fugacious petals; this has small but prickly pods. Another plant in this order, which has no beauty except the fresh green of its foliage, used to occur in cottage gardens; it is the Greater Celandine. Its yellow juice was said to remove warts, and it was even applied to spots on the eyes. Why it should be associated with the swallow is not evident, for it flowers about June.—J. R. S. C.



FIG. 130.—HABENARIA CARNEA. (See page 505.)

Ardencote.

THE quiet and picturesque village of Claverdon, which is situated a few miles distant from Warwick on the Stratford-on-Avon line, is one of the many pleasant spots of Warwickshire. Around the whole neighbourhood the ground is beautifully undulated, and abounds in shady lanes, which make the county so delightful in summer time. The principal part of the village is situated on high ground, where the houses cluster

about those landmarks which to many are associated with pleasant memories, the schools and church. The dullness so noticeable in many villages is not a characteristic of Claverdon, as the inhabitants are given to social intercourse and progressive work, which is carried on with energy and spirit.

Ardencote, the residence of Miss E. C. Phillips, with its beautiful and well kept gardens, is situated on rising ground a few minutes' walk from the village, and it was recently my good fortune to spend a few hours there with Mr. W. Styles, the genial, practical, and thorough gardener, who still retains that deep interest in his calling which is usually noticeable in men who have had a good early training. Mr. Styles is an old Journal reader, and delights to speak of the wordy warfares carried on in its pages for many years. The month of November is certainly not the best time in the year to visit a garden, but there is always something interesting to be seen in a well managed one, and, as a matter of course, the Chrysanthemums first claimed attention. Neither the plants nor flowers are grown for exhibition at Ardencote, but nevertheless fair flowers are grown, as well as a

number of bushes, for conservatory and house decoration, and a splendid display they make in that structure. Such fine old varieties as Miss D. Shea, W. Seward, and Duke of York are still grown, on account of their characteristic colour, but a few new sorts are also obtained each year, some of the most prominent being Yellow Carnot, Lady Isobel, G. W. Palmer, and Elza. All the blooms were particularly good in colour, and the plants well clothed with foliage to the rim of the pots.

Many fine specimens of Ferns were also growing in the conservatory, *Nephrolepis tuberosa* and *Woodwardia radicans*, as well as *Adiantum canneatum*, being specially good. On the rather lofty roof the magenta coloured *Tacsonia* made a brave show, and few climbers are more suitable for such positions. Camellias planted out were in luxuriant health, and growing in a large pot was the finest specimen of that old greenhouse *Rhododendron*, Princess Alice, that I have yet seen; with a little tying out it could easily be made 6 feet in diameter and as much in height.

The culture of that brilliant winter-flowering plant, *Begonia Gloire de Lorraine*, is evidently well understood at Ardencote, as I noticed a number of dwarf profusely flowered examples, the bloom being large and of high colour. Mr. Styles finds the plants delight in a fair amount of heat and abundance of moisture during the growing season, with plenty of shade during bright weather. Primulas and other greenhouse plants are also well grown. Let me here call special attention to a most attractive plant for covering a greenhouse wall—viz., *Streptosolen Jamesoni*. If grown in a large pot it makes rapid progress, and produces flowers of an attractive apricot colour for several successive months. *Habrothamnus Newelli* is also grown in preference to the older variety elegans on account of the brighter colour of the flowers. The stove was well furnished with beautifully grown *Dracænas*, *Crotons*, and *Pandanus* of the right size for decorative work.

Vegetables are well and largely grown at Ardencote. In addition to the space devoted to them in the walled-in garden, other large breadths are grown in a field in order to maintain a continuous supply throughout the year. The soil, being stiff, was at one time difficult to work; but by the application of opening materials for a number of years the surface has become more porous, and will by degrees be made lighter to a good depth, and be then better adapted for both fruit and vegetable culture.

Pyramids and horizontally trained cordon fruit trees growing round the sides of walks as a rule bear good crops of fruit, to which the full condition of the fruit room this year testifies. When, however, the roots get down to the cold clay subsoil, canker often sets in. The trees are then lifted—abundance of drainage given—and replanted, after which improved results are obtained. If the soil at Ardencote had an underlying stratum of rock, such as is found in fruit growing countries, it would prove far better for fruit culture.

In the borders on either side of the main walks large quantities of herbaceous plants are grown; most of the best really good things are added to the collection, and during the spring and summer months must make a fine display. To note their charms I hope to pay another visit at a more suitable season.

The lawns, flower gardens, and shrubberies are kept in excellent condition, and clearly show the supervision of a master hand. They contain a fair collection of flowering trees and shrubs, which are well cared for; seldom have I seen the Strawberry Tree (*Arbutus Unedo*) thriving so well, some of them are from 10 to 12 feet in height and pictures of luxuriant health. There are also several fine bushes of *Rhus Cotinus* (the Flame Tree), choice varieties of *Rhododendrons* growing splendidly in prepared soil, *Cratægus* are admirably disposed in positions where they have plenty of room to develop, and are seen to advantage; this year they are laden with berries of a particularly bright colour.

In the Rose beds large numbers of bulbs have been planted to provide a display at a time when such places are usually unattractive. The combination is a good one, the appearance of the Roses clearly showing that the bulbs do not injure them in the least. In front of the mansion is a fine open space, commanding a charming view, and there the principal group of flower beds is situated. Wallflowers, Polyanthuses, Violas, and Daisies are especial favourites, and as a matter of course are largely grown, the beds being thickly planted with them; and as bulbous plants have also been planted beneath, the spring bedding at Ardencote must indeed be a brilliant one.

Miss Phillips is an ardent lover of gardening, and takes the greatest delight in watching the progress made in her gardens at various seasons of the year, and in Mr. W. Styles she has a gardener whose brains and hands are ever on the alert to keep his charge in the best possible condition. His efforts are fully appreciated, and between employer and employed there exists that mutual understanding and goodwill which is so potent a factor in securing good results in every walk of life.—ONWARD.



Decorative Chrysanthemums—Bush Grown v. Exhibition Plants.

YOUR correspondent, "H. R.," is correct in saying that the beauty of well-grown blooms, even if not grown for exhibition purposes, cannot be denied, and though, as he rightly says, their culture is somewhat of a luxury in these days of gardening for profit, there are yet an average number of gardens in which a portion of the stock is treated for producing specimen blooms. Though always admiring the grandeur and perfect development of the show bloom, I have never lost sight of the great value of the bush-grown stock. With these such a long season can be covered, and with much more certainty than pertains to the show bloom. The latter can be had easily enough from mid-October to the middle of November, but it is not so easy a matter to govern the supply of big blooms after that date as it is the smaller flowers produced in sprays.

There is no denying the superb effect obtained by the use of the specimen blooms in large rooms or halls in town or country mansions; and for shooting parties, which generally occur during their season, they have an inestimable value, and are always sure to please both host and guests. But these massive blooms, which suit large rooms so well, are out of place in small ones, and this is where the bush varieties have a value that is never denied them.

Everyone responsible for a regular and continuous supply of winter bloom must admit that bush plants require, as "H. R." says, to be well treated, and not crowded together until they become a mass of mildewed and dry leaves. As much care should be bestowed on their daily needs, though feeding with stimulants will require less attention, as is given to exhibition stock. Liquid manures form one of the best stimulants for bush plants, and soot water is valuable as a change of diet.

What is required in bush more perhaps than in the large bloom is a decided colour; many of the mixed and almost indescribable shades that constitute some of the show sorts would be worthless in a bush variety. White, yellow, and bronzy shades and some pinks are the most telling. Of crimsons there are few, and these fade sooner than do others of a lighter and brighter colour. Some of the exhibition varieties are equally as good for this phase of culture as the typical decorative sorts. A few of these I have put under trial this year, and they have made good growth and produced plenty of flower buds, some of them not yet open. The popular Miss Nellie Pockett is excellent in a bush, as are Madame Philippe Rivoire and Madame Ferlat, the latter giving some exquisite sprays. *Plœbus* makes a very fine bush, and produces a wealth of excellent full-coloured flowers suitable for cutting. Bonnie Dundee, though scarcely equal to the last named, is good; its stiff stems can be cut of good length, and the colour, as is well known, is of the brightest. As a vase plant for rooms there are few varieties that can compare with the dwarf bushy single Miss Rose, and for cutting Mrs. Langtry is extremely pretty. The plant grows much taller than Miss Rose, and is thus not so useful as a vase plant. In conservatory groups, however, its taller growth and Marguerite-like character gives it a higher value. America this year is better than usual, and is a good single of the larger class, useful for any purpose. Souvenir de Petite Amie gives freely flowered and dwarf plants of the purest white, and Mrs. E. G. Whittle nice sprays of salmon pink, very distinct, that will keep for Christmas.—R. A.

Propagating Chrysanthemums.

THE insertion of Chrysanthemum cuttings for next season's display is a matter which now claims attention from all classes of growers of the "autumn queen." Of course it is not indispensable that all the stock eventually to be grown should be propagated forthwith, but when naturally late flowering varieties are required to develop their blooms earlier it is of material assistance if plants are raised early so that a suitable bud may be produced in time to be of service for exhibition or other purposes.

Good cuttings are necessary to produce the best results in plants and blooms, so if such can be secured from any variety at this or a subsequent early date, it is good policy to secure and insert it. No hard and fast line can be laid down as to the exact time when cuttings may be propagated, because the plants differ in their capability of producing cuttings. Some varieties are very shy in throwing up suckers, which are always considered to form the best material for propagation, hence it is necessary to wait until cuttings of sufficient length and strength can be procured from them. The general rule in the propagation of Chrysanthemums is, however, that late varieties should be inserted in November and December, midseason varieties at the end of December and in January, and early flowering sorts in January, February, and March.

All these varieties may be propagated during this month and the first three months of the year, just whenever good cuttings are obtainable, but if they are ready at the right time adhere to the rule concerning them. It is better to wait and insert strong and sturdy cuttings than to attempt the rooting of weak cuttings, or those having a flower bud in the centre. Stem cuttings are not advisable, but must be employed rather than lose a valuable variety.

Sucker growths, which form the best cuttings, are usually found well away from the stem. They should be 3 or 4 inches in length, and are to be preferred without roots attached, as this necessitates the retention of more woody stems at the base than is desirable for free growth. In my opinion, too, these sucker growths root better when little of the white underground stem is retained, and the base formed of the greener tissue. Let the base of the cutting be cut close under a joint.

Some cultivators insert the cuttings singly in small pots, but several can be rooted round the edges of pots 3 inches in diameter. They should be clean and well drained. Loam, leaf soil, and sand in equal parts form a suitable compost. This should be introduced into the pots firmly and surfaced with sand, fine dry silver sand, which will fall down into the holes when these are made for inserting the cuttings. Use a blunt ended stick, and see that the base of the cuttings touches the bottom of the hole. Press the soil evenly round and at once water them with a fine-rosed water pot. The pots are best placed on a moist base in a frame or under hand-lights in a cool house. A deep box covered with loose panes of glass suffices if the other conveniences are lacking. Confining the cuttings helps to keep them fresh and accelerates the rooting, but the inside of the glass ought to be wiped dry once a day. Too much fire heat is not good, as it will weaken the first growth following rooting.

All the cuttings will not root at the same time. Some will form roots quickly and at once grow. These should be placed in another division and gradually given additional amounts of air each day until they bear without flagging the external air of house. Then elevate close to the glass. Do not give the cuttings more water than necessary. A light sprinkling may be required occasionally before rooting. Afterwards more water will be necessary, as the soil ought not to become dry. Pot singly when plenty of roots are formed. —E. D. S.

The Rust.

THE scare that was aroused by the advent of this new disease has apparently subsided somewhat, since very little reference has been made of late by writers and growers. It is however, still with us, as most gardeners know only too well. The remedy that can stamp it out has not, as far as I am aware, a name yet, although we are told there are such. There are isolated cases where the "rust" has been virulent this year. One excellent grower of my acquaintance last year made a determined effort to rid his plants of the foe, but he was bound to admit at the end of the season that he was beaten. Meeting him this autumn, I inquired how he had fared for "rust" this year, and what was his remedy. His reply was that, though he had still a stock of infested plants, he was so disappointed by his last year's efforts and results that he determined to allow it to run its course this season. The disease never attained to its former vigour, and the plants carried the foliage to the end of the season, and, what is of equal importance, his blooms were of prizewinning quality.

It is curious how susceptible some varieties are to this leaf disease, and how free others keep from it, even when growing together. Softsoap and petroleum boiled together in equal quantity, and to which was added a little sulphur, was our antidote, and by weekly spraying with an "Abol" syringe (which I find most excellent) we were enabled to keep the pest from spreading seriously. An acquaintance who, having a perfectly clean stock last year, refused offers of cuttings from friends, and decided not to run any risk by purchase lest his stock should become tainted, was disappointed in his dreams of exemption, for this year the visitation of rust included this once clean stock within its grasp, and his is now "an infected area."

There is a great deal of mystery surrounding this rust trouble—its origin and source is, like influenza, not well understood. There are, however, both hope and consolation in the knowledge that it is less destructive than it was on its early acquaintance; but at the same time lethargy must not be the policy of growers chosen for the future, or probably a relapse into its original state may ensue, invoking with it new terrors and troubles. Velthea, the great specific, which has had so large a use among specialists, may account to some extent for the decline of the Chrysanthemum disease, and must be employed in the near future as a safeguard against an insidious attack. I do not think overfeeding can be claimed as an invariable cause of the disease, because among bush varieties that have more rational treatment there is sometimes the most infection. What is the opinion of other readers on this subject?—W. S.

National Chrysanthemum Society—Annual Dinner.

THE company that met at the Holborn Restaurant on Wednesday evening last, to celebrate the annual dinner of the National Chrysanthemum Society, was a comparatively small one, and it cannot be said that the chairman was properly supported. The committee issued a special invitation to ladies, but they were not present in strong force. Amongst those who supported Mr. T. W. Sanders were Sergeant H. G. Bourne, of the Army Medical Corps, and Messrs. T. W. Wilkinson, C. E. Wilkins, H. J. Jones, C. Harman Payne, J. H. Witty, T. Bevan, D. B. Crane, W. Higgs, Vallis, and Richard Dean, V.M.H., the secretary. It is to be hoped that more members of the society will see their way to attend on future occasions; the evening is always an enjoyable one, and the committee evidently works hard to make the meeting a great success.

Letters and telegrams regretting inability to be present having been received and read, and the customary loyal toasts carried with acclamation, the chairman rose to propose the toast of "The National Chrysanthemum Society." Mr. Sanders expressed the great pleasure it gave him to be enabled to congratulate the society on its continued prosperity, a prosperity he hoped would be more than maintained in the future. He referred to the enthusiasm that animated private and trade growers alike, and pointed to the fact of the continued introduction of new varieties as a proof of the prolonged popularity of the Chrysanthemum. The Floral Committee had, he observed, awarded seventeen first-class certificates, eight awards of merit, with numerous commendations, during the present season. The society had now a membership of 837, comprising 742 ordinary members and 95 extraordinary members, whom Mr. Sanders, we presume facetiously, designated Fellows. From this he hoped there would be no retrogression, but rather that the numbers would be vastly increased. He adverted briefly to the pre-eminence of the Japanese section, but marked with great pleasure the perceptible improvement of the incurved flowers. Looking at the affairs of the society from a financial point of view he thought they were most satisfactory. The society, some time back, passed through a period of trouble, when the reserve fund had to be encroached upon, but now, through the energy and perseverance of the several officers, the sum held in reserve was again brought up to £100, which he considered none too much for a society doing such an excellent work. In conclusion he said that so long as the members gave their support to the committees and officers, the society would prosper, and continue in its path of usefulness. The toast was received with enthusiasm.

Mr. C. E. Wilkins, the treasurer of the society, was entrusted with the task of thanking the donors of special prizes. He admitted their value and the aid they gave to the parent society as well as to the many provincial ones affiliated therewith, but would suggest that they give their prizes to the committees to be awarded at the discretion of these bodies, and not to accompany them with any stringent regulations. In some cases, he asserted, where special prizes were offered in the manner indicated, instead of being of benefit to the society they were actually an expense, and for that reason he made the appeal. Mr. J. T. Simpson replied. Amongst those who have promised special prizes next year are Sir E. Saunders and Messrs. P. Waterer, J. T. Simpson, H. Deverill, W. Wood & Son, E. Webb and Sons, R. Sydenham, J. Peed & Son, and C. W. Richardson.

One of the most important events at this function is the presentation by the chairman of the national challenge trophy and other cups and medals. The national challenge trophy went for the second time to the Portsmouth and District Horticultural Society, while the Holmes Memorial cups went to Messrs. W. Higgs and Vallis. Gold and silver medals of both the French and English Chrysanthemum societies were also awarded amidst the greatest enthusiasm.

On the conclusion of this pleasant duty the toast list was resumed, and carried to a completion in the midst of the greatest good humour. The musical arrangements were under the direction of Mr. Gurney Russell.

Westminster, December 4th, 5th, and 6th.

THE early winter exhibition of the National Chrysanthemum Society was held at the Royal Aquarium, and was undoubtedly a great success. The chief features were the large groups and the incurved section. These were exceptionally good for the season, and the show as a whole was perhaps the best December show held by the society. The trade groups were also very much in evidence, and made a good exhibition in themselves.

There were three competitors in the class for twenty-four Japanese, not less than eighteen varieties. Here Mr. R. Kenyon, gardener to A. F. Hills, Esq., Monkham, Woodford Green, was first with a splendid board. The varieties were Robert Laird, Mrs. Barkley, Madame R. Cadbury, J. R. Upton, Mrs. E. Barker, G. J. Warren, Mons. Chenon de Léché, Madame G. Debrie, Mons. L. Remy, Mrs. J. Bryant, Mutual Friend, Florence Molyneux, Etoile de Lyon, Madame von Andre, R. H. Langton, George Towers, Joseph Chamberlain, Khama, and Oceana. Mr. W. C. Modrae, gardener to Major F. Shuttleworth, Old Warden Park, Biggleswade, was second with smaller though fresh flowers. The best were Silver King, Mary Molyneux, Hairy Wonder, N.C.S. Jubilee, Madame Ad. Chatin, Etoile de Lyon, Mons. L. Remy, and Chatsworth; the third place was taken by Mr. J. Sandford, gardener to G. W. Wright Ingle, Esq., Wood House, North Finchley, who staged some good blooms, but the board as a whole was irregular.

For twenty-four bunches of Chrysanthemums, any varieties, there were four competitors. Mr. R. Kenyon was again in the premier position with a strong set of Japanese varieties. The flowers were large and fresh, but as the varieties were mixed in many of the vases they could not be named. Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham Common, came second with a similar display, the blooms being visibly weaker, but more freely arranged, while Mr. John Aplin, gardener to W. M. Baker, Esq., Hasfield Court, Glos., made a poor display for third place.

For twelve Japanese blooms, distinct, there were three entries, Mr. R. Kenyon once more coming to the front with a good fresh exhibit. The varieties were Mrs. Barkley, J. R. Upton, Graphic, Madame R. Cadbury, Mutual Friend, Mons. Chenon de Léché, Madame G. Debrie, Mons. L. Remy, Oceana, Etoile de Lyon, Khama, and Mrs. W. H. Lees. Mr. C. Payne, gardener to C. J. Whittington, Esq., Elmshurst, Bickley Park, was a good second with typical blooms of Australie, G. J. Warren, Surpasse Amiral, Madame Carnot, and Mons. Chenon de Léché; while Mr. J. Sandford made a capital third.

Strange to say, there were only two entries in the class for six Japanese, distinct, the first prize being awarded to Mr. John Aplin, who staged G. J. Warren, Silver King, Master H. Tucker, Chatsworth, Madame Carnot, and Etoile de Lyon. The flowers in this stand had evidently been moved, so that the names were considerably mixed. Mr. S. Foster, gardener to R. Nivison, Esq., Tenderden Hall, Hendon, was second with good flowers of Graphic and Surpasse Amiral.

The class for twelve incurved blooms, not less than six varieties, made a good display, no less than seven exhibitors staging, a most unusual number for December. Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Fetcham, added to his previous successes by winning the first prize handsomely. The blooms were large, fresh, and well finished, the varieties being Mdle. Lucie Faure, a grand bloom; Ialene, Chas. H. Curtis, Ma Perfection, Miss Dorothy Foster, Bonnie Dundee, Miss L. de Black, and Mrs. J. Eadie. Mr. C. Payne was allotted second place for a much weaker stand. The best were Mdle. L. Faure, Hanwell Glory, Duchess of Fife, and Bonnie Dundee; and the third position fell to Mr. G. W. Forbes, gardener to Madame Nicols, Regent House, Surbiton, who had neat blooms of Mrs. R. C. Kingston, Chas. H. Curtis, and Bonnie Dundee.

There was only one competitor in the class for twelve bunches of Japanese, not less than six varieties, and Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, was awarded first prize, the varieties being Helen Shrimpton, Mons. J. Fatzer, G. J. Warren, Silver King, Master H. Tucker, Florence Molyneux, Mary Molyneux, Mrs. Maling Grant, Le Grand Dragon, Madame Carnot, W. Adams, and M. L. Remy.

In a class for six bunches of Japanese, distinct, there were two competitors. The first prize was well won by Mr. W. Tipler, gardener to Miss Smith Dorrien, Hartwell Cottage, Aylesbury, who staged some beautifully fresh blooms. The varieties were Madame Carnot, Lady Hanham, Niveus, G. J. Warren, Madame P. Rivoire, and Amiral Avellan; Mr. S. Foster was awarded third prize for an inferior exhibit.

The single varieties were very pretty and remarkably fresh. In the class for six bunches of large flowering kinds there were three exhibits, the first prize falling to Mr. G. W. Forbes, who staged a beautifully clean exhibit. The varieties were Kate Williams, Rudbeckia, Regent Gem, Miss Brown, and Yellow Giant. Mr. W. C. Pagram, gardener to J. Courtenay, Esq., Weybridge, was second with good bunches of Mrs. Roberts, Elizabeth and Kate Williams; and Mr. F. Bush, gardener to W. T. Lister, Esq., Rose Hill, Totteridge, was third.

For six bunches of the small flowering varieties we had five good entries, Mr. G. W. Forbes securing premier honours for a pretty exhibit of the following varieties:—Miss Annie Holden, Mrs. D. B. Crane, Nellie Robinson, Miss Crissy, Mary Anderson, and Little Pet. Mr. R. C. Notcutt was a good second with capital examples of the King of Siam, Mr. A. Double, and Mrs. Dr. Duke; and Mr. C. W. Baynes, The Gardens, Ryedale, Weybridge, was third with some good clean bunches.

The exhibits of six bunches of decorative spidery, thread petalled, or plumed varieties brought out some very interesting exhibits, there being five contestants. Mr. J. French, gardener to Mrs. Barclay, Ambleside, Wimbledon Park, was first with good bunches of Mrs. Filkins, white Jitsujetui, Bouquetiere, Mrs. Jas. Carter, Jitsujetui and White Thread. Mr. A. Page, gardener to A. L. Reynolds, Esq., Ravenscroft, North Finchley, was second with King of Plumes, Cheveaux d'Or, and Alice Carter, while Mr. W. C. Pagram made a good third.

The class for six bunches of small flowering Pompons did not shine very well. Mr. W. C. Pagram was first with a collection that might have been fresher; the varieties were Primrose League, Perfection, Snowdrop, Miss G. Waterer, and Lilac Gem. Mr. D. B. Crane was second, though he staged two vases of large flowering varieties.

The amateurs turned up well in the class for twelve Japanese blooms, distinct, Mr. W. Tipler being placed first with Madame P. Rivoire, Mrs. E. W. Clarke, G. J. Warren, Nellie Pockett, Amiral Avellan, and Niveus in good form. Mr. J. Childs, gardener to Mrs. Fors, Totteridge, was second, staging Mary Molyneux, Mrs. Maling Grant, and Madame L. Lede in good form, while Mr. A. Page brought up the rear in creditable style.

For a table of berried, flowering, and foliage plants there were two competitors. Mr. A. Newell, gardener to Sir E. Saunders, Fairlawn, Wimbledon Common, and Mr. W. Howe were placed equal first. Mr. Newell had a very pretty table of Bouvardias, Cyclamens, Liliums, Roman Hyacinths, with a good variety of foliage plants; while Mr. W. Howe had a similar arrangement, but it was more striking.

Miscellaneous Exhibits.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, arranged a grand exhibit of Chrysanthemums both in pots and as cut flowers. Huge vases were used for the latter purpose, and the effect was charming. The cut blooms were fresh and bright, while the foliage plants and flowering Begonias were used with excellent effect; from an artistic point of view the group left little to be desired.

Mr. Norman Davis, Framfield, Sussex, had a beautiful display of cut blooms, embracing all sections, artistically arranged with Palms, Ferns, and foliage plants, while autumnal foliage also was used with excellent effect. The chief feature was, however, some monstrous blooms of Madame Carnot and G. J. Warren. Mr. Davis has already demonstrated his ability to produce the Carnot family, but on this occasion he surpassed all previous efforts, and the blooms of G. J. Warren will long be remembered as the best ever staged. Other good varieties were Mrs. Barkley, Florence Molyneux, and Ralph Hutton.

Messrs. W. Clibran & Son, Altrincham, exhibited a large collection of single varieties beautifully fresh and well staged. Messrs. H. Cannell and Sons, Swanley, exhibited a large table of cut Chrysanthemums, Begonia Gloire de Lorraine, Zonal Pelargoniums, and Cannas. The best Chrysanthemums were Ralph Hutton, Janet Lady Clarke, Mrs. Filkins, Mons. J. Fatzer, Sir Redvers Buller, and M. O. de Meulenaere. Needless to add the Zonals were grand, Madame Tilmant, Mrs. Chas. Pearson, Mark Twain, The Mikado, Winston Churchill, Mr. Kendall Barnes, The Sirdar, and Mrs. Tudway.

Mr. J. Flemming, gardener to Lady Pigott, Wrexham Park, Slough, arranged a large group on the floor of the building, which formed a veritable winter garden. The arrangement was greatly admired by everybody. It consisted of a series of mounds, comprised of Crotons built up with Poinsettias, Begonias, Spinæas, Daffodils, Lilium longiflorum, Lily of the Valley, Lilacs, Ericas embedded in Palms, Ferns, Solanums, Grasses, and Bamboos, while a few decorative Chrysanthemums were also judiciously used, the whole forming a unique display.

Mr. R. C. Pulling, Monkham Nursery, Woodford Green, occupied a large space with three large bays of Chrysanthemums, prettily arranged with foliage plants, the specimen blooms being of the best quality; certainly a very fine exhibit. Messrs. A. W. Young & Co., Stevenage, exhibited a good collection of Cacti.

Floral Committee.

Special honours included May Bell (H. Weeks), a large silvery pink incurved variety, striking only on account of its large size (first-class certificate); Robert Morgan (no name), a dull red single of good form (award of merit); Lady Windsor (W. Clibran & Son), a pretty single of the small flowering type, white with a deep rose edging, a charming variety (award of merit); Miss Jessie Pinnington (W. Clibran & Son), a pale blush pink, a single of good form (award of merit).

Electric Shock Plant.—The *Phytolacca electrica* is the botanical name of a plant which is capable of giving electric shocks. When its stem is broken the hand receives a severe shock like that given by an induction coil. The true electric nature of this plant is provided by the influence it has upon the magnetic needle, which is sensibly affected by it at a distance of 6 yards. Birds and insects alike avoid settling on it. The energy of its action is, says "Indian Gardening," greater during the day than at night, and it increases to a marked degree in storms. It appears from the investigations of Wartmann that most plants show traces of electricity; the currents are feeble in flowers, but in some fruits and grain they are very marked.

NOTES & NOTICES

Recent Weather in London.—For several days we have had rather heavy gales of wind accompanied by small drifting rain. This was more especially the case on Monday night; on Tuesday morning the sun shone for a short space, but rain recommenced in the early evening. At the time of going to press on Wednesday it was raining heavily.

Weather in the North.—For the past fortnight, with the exception of the 22nd and the 28th ult., on which there were 4° and 3° of frost in the morning, there has been almost continuous wet weather. If occasionally there has been a day fair, in whole or in part, rain fell during the night. On Monday, after a very wet night, the dull, gloomy, foggy day-promised no improvement.—B. D., *S. Perthshire*.

Weather in Yorkshire.—The rainfall for the past month has been 3.09 inches. Total for the eleven months, 28.57 inches; average per month, 2.59 inches. Rain fell on twenty-three days, most on the 3rd, with 0.46 inch. Maximum temperature in the shade, 4 feet from ground, 57° November 1st; minimum, 26° on the 10th.—H. W., *Gilling*.

Kentish Apples in Leadenhall Market.—In the Ship Tavern Passage in Leadenhall Market there was recently a display of late Kentish Apples which have taken prizes in local shows. Some examples of Belle Dubois shown there weighed over 1 lb. each, and one 1½ lb.; Emperor Alexander, Beauty of Kent, and Washingtons, though not so large, had each a distinctive quality of beauty or flavour, which were taken as justification for the price of 4s. a dozen asked for them.

Epping Forest Holly.—A Stoke Newington man was summoned at Stratford Police Court on Saturday for damaging a Holly tree in Epping Forest. Forest-keeper Butt said that Faulkner had broken several branches off a tree. When spoken to he said: "I did not know I was doing wrong. Why don't you advertise that people may not do this?" Defendant now said that what he did was done inadvertently. What, he asked, was the use of this Holly to him? He was not a greengrocer, and it was not yet Christmas time. He took it thinking it would look nice in the vases at home, but he had no idea he was doing any wrong. A fine of 20s. and 6s. costs was imposed.

Death of Mr. J. Douglas, of York.—We regret to record the death of Mr. J. Douglas, of York, which took place on November 30th, at the age of eighty-five. For many years he carried on business in that city as a tailor and woollen draper, but in the midst of his business found time to ardently follow the art of floriculture. He was amongst those who founded the Grand Yorkshire Gala, and for fifty years was a subscriber and member of the Ancient Society of York Florists, being a steward in 1848-9-50, and vice-president and chairman of committee in 1851. He was, we believe, about the last survivor in the York district of what may be termed the old school of florists. It was chiefly as a grower of Anriculas, florists' Tulips, and Roses that he was widely known, and his services were much sought after as a judge of these, several times officiating in that capacity at the Crystal Palace Shows.—J. L.

Winchester Gardeners' Association.—At the monthly meeting held on Monday the subject chosen for discussion was "Choice Herbaceous Plants," introduced by Mr. Newsham, F.R.H.S., lecturer to the Hants County Council. He commenced by describing the formation of the border and the massing of suitable plants for making an effective display, also naming those for cutting. At the close a spirited discussion followed, and was taken up by the following members, Messrs. Prowting, Taylor, Street, Cardy, Adams, and Consins. A hearty vote of thanks was passed to Mr. Newsham by the chairman. There was a grand collection of exhibits staged, and certificates of merit were awarded to Mr. F. W. Flight, The Cornstiles, Twyford (gardener, Mr. W. Neville), for twenty-four incurved Chrysanthemums, very large and well-finished flowers; and to Dr. Fearon, The College (gardener, Mr. G. Street), for twelve massive Japanese blooms. Mr. A. E. Taylor was also unanimously awarded a certificate of merit for his standard Chrysanthemum (Niveus) which was 6 feet 6 inches high, and carrying sixteen exhibition flowers.

Horticulture in the Isle of Wight.—Mr. S. Heaton is relinquishing the position of horticultural instructor to the Technical Education Committee of the Isle of Wight County Council on receiving a more remunerative appointment in Oxfordshire, where he has succeeded in securing the important position of technical instructor in horticulture.

Gardening Appointments.—Mr. Jas. Farr, son of Mr. Wm. Farr, Springgrove House, Isleworth, has been appointed head gardener to Viscount Sandon, Sandon Hall, Stone, Staffs. Mr. Farr entered upon his charge on Monday last. Mr. C. Baulk, for the last eight years head gardener to Septimus Croft, Esq., at St. Margaretsbury, Herts, has been appointed head gardener to A. B. Dunn, Esq., Tudgrove, New Barnet.

Potatoes for the Chinese.—A telegram from Tacoma to New York reports large exports of Potatoes from that port to Shanghai. Several firms have been introducing the Potato to the native Chinaman, and he has seemingly liked it, for he has ordered more. It is even claimed by the Tacoma exporters that the Potato may eventually vie with Rice as the Chinaman's staff of life. The telegram adds that an Irish-American commercial agent was the first to urge the value of the Potato upon the Chinese.

London County Council—Parks Department.—The Parks and Open Spaces Committee asked the Council at a meeting held on Friday, to authorise an expenditure of £9500 for band performances during the season of 1901. The sum voted by the Council last year was 9000, and the total expenditure in providing music was £8,675 16s. 8d., leaving a balance of £323 3s. 4d. The sum of £414 17s. 10d. was derived from the sale of programmes, and a further sum of £573 10s. 10d. from the letting of chairs at the performances. The recommendation was agreed to.

Liverpool Horticultural Association.—There was a splendid attendance of members at the monthly meeting of the above association held in the large room of Mr. Sadler's office in Victoria Street. Mr. T. Foster occupied the chair, and he at once introduced the lecturer, Mr. C. Sherry of the Wavertree Botanical Gardens, who took for his subject "Begonia Gloire de Lorraine: Its History and Usefulness as a Decorative Plant, with Cultural Remarks." The lecture was one of the best heard for many years in Liverpool, and Mr. Sherry was frequently applauded. Mr. J. Stoney advocated leaf cuttings; Mr. Finch said he thoroughly agreed with the excellent culture laid down. Admirable, too, were Mr. R. W. Ker's remarks on the parents, the history of the island of Socotra, his knowledge of the new varieties staged in London recently, and a glimpse of new varieties we may expect in time from Germany. The chairman's remarks, the vote of thanks proposed by Mr. Pinnington, and Mr. Sherry's reply were most interesting. Mr. Benson also spoke, and exhibited splendid blooms of Mrs. Mease and Madame Carrot Chrysanthemums. A larger room will have to be secured for the next meeting. The proceedings closed at a late hour, and rarely has such enthusiasm been seen.

Indian Fruit and the London Market.—A conference between Mr. Tata and the Peninsular and Oriental Company, on the question of establishing the export of Mangoes from Bombay on a commercial basis, which in the course of the summer was mentioned as likely to be held this autumn, came off recently. There were present Sir Thomas Sutherland, Sir Owen Burne, and other directors of the P. and O. Company, as well as Mr. Tata and Sir George Birdwood. Nothing can be formally decided in the matter until it has been brought before a meeting of the board, but it is understood that the basis of the arrangement come to is, that Mr. Tata and those associated with him will guarantee a shipment of 500 tons of Mangoes and other merchantable Bombay fruits, the P. and O. Company during the next Mango season—say, April 25th to June 5th—providing for one or two of their refrigerator steamers engaged in the Australian meat, butter, and fruit trade, calling on their homeward voyage at Bombay. Mr. Tata is now engaged in coming to an agreement with some of the London fruit importers, but it is hoped he may be able to do better than that by establishing reciprocally advantageous relations with one of the great co-operative stores in the metropolis. It would probably be easy to dispose of 500 tons of good Mangoes in the West End alone in a single day at 1s. each. A few Mangoes sent to a Bond Street shop last summer were almost instantaneously sold at 5s. each, and stringy, turpentiney Madeira Mangoes on sale in October at various London shops fetched 1s. to 2s. apiece.—("Bombay Gazette.")

New Public Parks for Aberdeen.—As additions to the public parks Aberdeen has purchased Westburn for £1400 from Mr. Chalmers, and some 9 or 10 acres of land for a park in the south-eastern quarter of Aberdeen. These new parks for the dwellers in the Granite City will be a great boon, and will meet with general appreciation.

Bristol Gardeners' Association.—The fortnightly meeting was held at St. John's Parish Room, Redland, on Thursday, November 29th. A large attendance was presided over by Mr. G. Brook. The paper on "Grape Culture" was provided by Mr. J. Kitley of Alvaston, Derby, and was read in his absence by Mr. H. Kitley, Clifton. It was full of useful information on the subject, dealing with the culture from making the borders up to the ripening of fruit. Emphasis was laid on the necessity of careful preparation of Vine borders, which he said should be made narrow to commence with, adding soil as growth advanced. Many helpful hints were given as to watering, syringing, training, stopping, and ventilation of houses, also the best method of dealing with many insect pests to which Vines were liable. Mr. Kitley, claimed for Grapes that they were accommodating enough to be grown in almost any locality, he himself having succeeded in producing first-rate quality at the foot of the Scotch Grampians. The paper was much appreciated, and the thanks of the meeting was voted to Mr. Kitley by acclamation. Prizes were offered for two bunches of Grapes. The first, a R.H.S. bronze Flora medal, was awarded Mr. A. M. Ross, the other awards being to Messrs. Andrew, Curtis, and Atwell. Certificates of merit went to Mr. Ayliffe for collection of vegetables, and Mr. Atwell two Begonias (Gloire de Lorraine).

Shirley and District Gardeners' Association.—The monthly meeting of the above society was held on Monday, 26th November, when Mr. J. B. Stevenson, of Chine Gardens Cottage, Bournemouth, gave a very able lecture on "Spring Bedding Plants," which was full of practical hints to his brother gardeners. Mr. Stevenson has charge of the beautiful Public Gardens at Bournemouth, and he gave some of his wide experience concerning the subject. He stated that it would surprise many of them when he said he did not grow more varieties than he had specimens on the table. These were Wallflowers, Blood Red and Cloth of Gold; Pansy, Viola, Aubrietia, Myosotis sylvatica, Myosotis dissitiflora, Arabis alpina, Doronicum, Stachys lanata, Alyssum saxatile, Alyssum saxatile compactum, Polyanthus, Primrose, Daisy, and Golden Feather. Having dealt with the production and raising of the plants, he dwelt upon the most effective way of planting them out. Mr. Stevenson said that if gardeners would imitate Nature in the way of associating colours they would not go far wrong. The following members gained the society prizes and certificate: Six blooms of Chrysanthemums, prizes given by Mr. F. W. E. Shrivell, of Tonbridge, Kent, first prize and certificate Mr. C. Frampton, second Mr. E. J. Biggs. A certificate was also awarded to Mr. Stevenson for a fine collection of spring bedding plants.—J. M.

Birmingham Gardeners' Association.—At the recent fortnightly meeting, with Mr. Walter Jones in the chair, Mr. James Udale, County Council Horticultural Lecturer for Worcestershire, gave an address upon the culture of "Hardy Fruits," illustrated with numerous diagrams and photographs pertaining to the training and pruning of especially Apples, Pears, Plums, Gooseberries, Currants, and Raspberries, with lists of select varieties of the fruits enumerated. An enlarged photograph of several rows of Strawberries demonstrated the comparative effects of mulching and non-mulching of the plants, showing the superiority of the former method. In the select list of varieties recommended to be grown front rank was given to Countess as regards flavour, and even superior to British Queen as grown by the essayist at the Experimental Garden, Droitwich. Examples of young Apple trees (two years old from the graft) were shown. An animated discussion ensued, and one of the questions put was in reference to the "blindness" so often observed in Strawberry plants. The lecturer hazarded the opinion that it arose from either of two causes—over-luxuriance of the plant, or from sexual deficiency—and that propagation should certainly not take place from such affected plants. Referring to the varieties of Gooseberries, one of the speakers alluded to Green Gascoigne, which he cultivated upwards of forty years ago, as an early variety, very sweet and juicy, a prolific bearer, and excellent for preserving as jam. A small but representative collection of Apples was contributed by Mr. G. Stacey, Harborne, and the excellence of which was extolled by Mr. Udale, considering the disadvantages accruing from the presence of adverse atmospheric influences of a locality so contiguous to a manufacturing town like Birmingham.

Liverpool Farmers' Club.—The Liverpool and District Farmers' Club held its meeting in the North Haymarket, Mr. J. Boardman presiding. Professor Daine, late of the Harris Institute, Prescott, gave an address on "Grasses and Clover Seeds." Speaking of the importance of his subject, he stated that a departmental committee of the Government had recently been sitting. Last year's imports amounted to over 15,000 tons, and the value over half a million of money. In concluding Professor Daine suggested that they buy upon a guaranteed specification, signed by the vendor, by weight and not by bushel, from reliable men, pay a proper price, buy the best, buy early and get the best samples, buy wherever possible for cash and get discount. He would like to see in England, as at Zurich, a national seed station, with a farm attached for experimental purposes. The lecturer had on view splendid samples of various kinds of seeds. He was accorded a vote of thanks for his valuable and interesting remarks.

Lecture on Australia.—Miss Darchy, a member of the staff of the "Sydney Daily Telegraph," gave a lecture recently in the Steinway Hall on "An Hour in the Australian Forest." Sir Horace Tozer, Agent-General for Queensland, presided. Miss Darchy dealt almost entirely with Australian scenery. She described the Australian bush, of which she seemed to be a great admirer. She referred to its exquisite tenderness and softness, its pathos and solemnity, and its greatness. She said that those who hurried through the mountains often failed to appreciate their attractions, but the Australian bush was filled with grandeur for its lovers. Waterfalls, Ferns, and flowers were all to be found. Miss Darchy spoke of the animals to be found in Australia, and said that they were characterised by curious forms. The nomenclature of Australian towns was explained. Some aboriginal names had been retained, and sounded very pretty when contrasted with such modern names as Tombat Point and Jonesville. The lecture, which was very interesting, was illustrated by lantern.

Sussex Weather.—The total rainfall at Abbots Leigh, Haywards Heath, for November was 3.51 inches, being 0.09 inch below the average. The heaviest fall was 0.74 inch on the 16th; rain fell on seventeen days. The maximum temperature was 62° on the 1st, the minimum 28° on the 11th and 23rd. Mean maximum 51.02, mean minimum 39.20°; mean temperature 45.11°, which is 1.76° above the average. A fine mild month, not much sunshine, but free from fogs, has been very favourable for planting and garden work generally.—R. I.

November Weather at Belvoir Castle.—The wind was in a southerly direction twenty days. The total rainfall was 1.98 inch; this fell on twenty-seven days, and is 0.42 inch below the average for the month. The greatest daily fall was 0.25 inch on the 28th. Barometer (corrected and reduced): highest reading 30.447 inches on 18th at 9 P.M.; lowest, 29.216 inches on the 15th at 9 P.M. Thermometers: highest in the shade 62° on the 1st; lowest, 25° on the 11th; mean of daily maxima, 48.56°; mean of daily minima, 39.23°; mean temperature of the month, 43.89°; lowest on the grass, 19° on the 11th; highest in the sun, 97° on the 9th; mean temperature of the earth at 3 feet, 41.73° Total sunshine 48 hours 50 minutes, which is thirteen hours below the average. There were fourteen sunless days.—W. H. DIVERS.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
November and December.										
Sunday.. 25	S.S.W.	deg. 49.1	deg. 47.9	deg. 53.6	deg. 42.7	ins. —	deg. 44.3	deg. 47.0	deg. 50.5	deg. 40.6
Monday.. 26	S.S.E.	40.0	39.7	51.3	37.4	0.03	44.4	47.2	50.3	28.0
Tuesday 27	S.S.W.	41.5	40.2	51.7	40.2	0.09	45.1	47.4	50.3	35.0
Wed'sday 28	S.S.E.	46.4	45.2	48.1	41.0	0.20	44.6	47.2	50.1	30.2
Thursday 29	E.S.E.	44.9	42.7	47.8	43.1	0.01	45.3	47.2	50.0	39.2
Friday .. 30	N.N.E.	42.9	41.1	46.4	42.5	—	45.3	47.2	50.0	34.6
Saturday 1	E.N.E.	42.5	41.9	43.6	41.2	0.04	45.1	47.4	49.0	39.2
MEANS ..		43.9	42.7	48.9	41.2	Total 0.37	44.9	47.2	50.2	35.3

The weather during the first part of the week was bright and warm, the latter part being dull, especially on Saturday, which was very dark between ten o'clock and two o'clock. Rain fell on five days.



Spade v. Fork.

I NOTE on page 490 that Mr. T. Welch seems to doubt the statement I made on page 466 to the effect that it is impossible to dig heavy clay soil with a fork. I must nevertheless adhere to that assertion. I am fully aware that where a fork can be used it is better for the land than a spade, and some of my borders are now in condition for a fork to be used, but other ground is still so heavy that a fork cannot be used; in fact, if we were to try it we should break nine out of ten forks. My ground is not dug flat, but as straight up as possible, and a great deal of it is ridged and left in that state until the spring. My land is not strong heavy loam, but heavy yellow clay of the poorest description; at least, that was the natural state of the soil before it was worked, and if one has never seen the land that can be worked better with a spade than a fork they can come here and see for themselves, when I think they would return satisfied that what I have stated is true.—W. SHEPHERD, *Capel*.

Pear Doyenné du Comice.

I TRUST that most useful body the Royal Horticultural Society's Fruit Committee will survive the possible onslaught upon it for having, at a recent meeting, given that superb but hitherto, to the surprise of most persons, so far neglected Pear, Doyenné du Comice, a first-class certificate. The Journal return gave an award of merit; it was really a F.C.C. that was awarded to it, although, oddly enough, a few members voted against it. One cannot protest too strongly against the repeated declaration that the duties of the committee in relation to awards of an honourable kind are limited to novelties. Practically everything presented to the committee for the first time for an award is a novelty.

It was naturally a matter for astonishment to learn that so superbly flavoured and fine a Pear as Doyenné du Comice had never previously been so presented, and when Mr. Bain sent up from the president's gardens at Burford Lodge a really first-rate sample, the fruits exhibiting that delicious quality which invariably marks the variety, no wonder the majority of the committee felt that long neglect was no justification for a glaring omission. When will any raiser produce for us another variety such as this is, much less a better one? How many distinctly inferior varieties have obtained F.C.C.'s whilst the doyen of all Pears had no honours awarded? Well may we hope that in face of this fact the voice of harsh biased judgment will be hushed.—A. D.

Grading Apples.

LOOKING through a number of a Canadian gardening paper I was struck with an illustration of an orchard in which whilst men were engaged in picking fruit, others were assorting and packing them. But intermediate in the labour was the tumbling of all the fruits as gathered from the baskets into a large shallow trough, from which the graders picked them into other baskets for packing into the tubs.

Canadian Apples seem to have capacities to resist bruising better than our English Apples. I could only think that were such a course adopted here, and the fruit packed into barrels for transit to America, the bulk would arrive in a very rotten condition. The plan also necessitates the handling of the fruit three times, besides tumbling them about unduly. It has always struck me, in relation to Apple culture and grading the fruit here for our own markets, that bush tree culture would be far better than standard tree culture, as with the former an intelligent picker could do the grading as he gathered the fruits, taking all the best sized first and the second size later; then the Apples could be taken direct to the boxes, baskets, or tubs, and packed without further trouble.

Standard trees on grass are no doubt best for orchards, but such a method is not Apple culture. The finest and best finished fruits are got from bush trees; they are easily thinned if it be needed, and very readily gathered. The fruits also are much less liable to injury by wind storms. I do not know whether anyone has compared the fruit product per acre from standard trees with that from bush trees, but as the latter can be planted at 12 feet apart and the former need at least 24 feet between them, then the produce of the lower trees should not be less in bulk, and be far finer in the sample. I think it is in the matter of quantity rather than in quality of fruit the Canadians yet excel us.—GROWER.

Dessert Apples.

I THINK your correspondent "E. D. S." in his otherwise excellent letter on page 463 might in some respects have improved his list of dessert bush Apples. Duchess of Oldenburg can hardly be called a dessert Apple, but rather a second rate cooking one. Lemon Pippin is an old variety of poor quality. Dutch Mignonne, though an excellent keeper and good for cooking, is not a dessert variety. I would suggest in place of these King of Pippins and Cox's Orange Pippin.—E. D'O.

New Grapes.

MR. W. CRUMP's kindly offer to have samples of the true Black Morocco Grape placed before the Fruit Committee at the Drill Hall on Tuesday last was unfortunately not availed of by the growers of Diamond Jubilee, the new Scotch Grape, who were invited by Mr. Crump to send fruit of that variety to the committee at the same time. It will be remembered that when the latter Grape was originally presented at the Drill Hall it was regarded as so closely resembling Black Morocco as to prevent any award being made to it. It has been rather ungenerously assumed that the members of the committee do not know Black Morocco. But not very long ago that Grape was presented in very fine condition from a Bedfordshire garden, where, in spite of what is said to the contrary, it set freely and produced fine crops as a new variety, the grower being in entire ignorance that it was an old Grape. Not only were berries very fine and superbly coloured, but the bunches were broad cluster-shaped rather than tapering.

But it is evident that such close discernment cannot always be practised in relation to new Grapes, and for that reason it is important that some form of growing trial should be established for all new varieties. It is folly to state that such a trial would be harmful to a trader wishing to put any new Grape into commerce. I have yet to learn that the Royal Horticultural Society or the Fruit Committee exist for the pecuniary benefit of the horticultural trade. It will be a bad day for both when such becomes the case. The committee should insist on all doubtful varieties being tried by growth at Chiswick or elsewhere before any award is made, and thus be able to assure the world that the plant in question is distinct.—A. D.

Women as Gardeners.

IT is very interesting to note the little comments on the work of women gardeners, and I admire the delicate manner in which this subject is touched upon, but to me they seem to stop short of the true aspect of these doings. I, for one, do not doubt a woman's capacity for mastering the lighter branches of gardening, such as bouquet and wreath making, dinner table and house decoration, botany and vegetable physiology; but digging, and the turning of manure for Mushroom growing; I pity the poor woman that is obliged to do it! Not one woman in a hundred is physically fit for such work, and I do not wonder at "A. D. C." (page 421) being struck with the way they handle the spade and do the work. My experience, like that of "A. D. C.," is that not 10 per cent. of the men we employ are good diggers, either from laziness or for want of early training. It takes a really good man to stand up to the spade, send it down to the tread with a strong pressure of the foot, and turn the spit clean over, bottom upwards, and then to dig 10 poles a day of moderately light garden soil. I learnt to dig at fifteen years of age, and am now getting on for threescore, and am still able to give most men a tying up. I have had, many a time, to give my men an example, and have convinced more than one that 10 poles a day is a fair day's work, but I should be sorry to put such a task upon a woman.

Now the point to consider above all others is, What are these women gardeners to do after their two years' training? Does anyone suppose that with the best ability in the world any man or woman can become skilled gardeners in two years? Why encourage women to enter an employment that is already overdone, and that is so full of first-class, well-educated, skilled men that are struggling hard for a living, and some of them—aye, many of them—earning such poor wages as to make it utterly impossible to make any provision for old age? And what, again, is the business of a florist or Grape grower with the late price of coal and the continual downward prices of produce? Why not encourage the women who have to work into an opening that is hungering for the services of good, industrious, and intelligent persons—viz., domestic servants? What better life can there be for women? Work they can do, good food, comfortable homes, and remunerative wages—only let mistresses remember they are women like themselves, and should be treated as such, and not like a household chattel, to be dealt with as though they were the mistress's property, but always remembering the mutual obligation, that a good servant's services are equal to the employer's wages, and then we should soon hear no more of the difficulty of getting good servants. One word more about gardening for women. If it is to do any good it should be young girls of fifteen that should start on such a career, and not elderly maidens who have for some reason or other abandoned all hope of wedlock.—JOHN KITLEY.

A Gardener's Duties.

THE paragraph on page 488 having reference to a gardener's duties, especially in relation to blacking a grate, brings to my mind the much vexed question of Sunday duty, this applying more especially to young men. Of course, I am aware that the subject has been dealt with before, but we seem to be as far as ever from any definite conclusions or rules, and I would therefore place a few notes on both sides of the case before your readers, and shall be glad to read their opinions in our Journal.

On one side it has been contended that growing plants in pots is no work of necessity, and that therefore watering them could form no work of necessity. We can enter into no serious discussion on this point, for on the same ground it might be contended that as a horse kept for pleasure is not a necessity, therefore it is objectionable to feed it or water it. A plant in a pot must have sustenance when it needs it, or it may suffer proportionately with a horse left without sustenance on a Sunday. Men who resolve to do nothing except what is in the highest sense a work of necessity should confine themselves to trades in which nothing is required of them on that day. The gardener who has religious scruples about watering a flagging plant in a pot on a Sunday may retain his scruples, but he should take to another occupation. He could not, with advantage to himself or to his own satisfaction, fill the situation of gardener in the smallest place where plants are grown in pots.

On the other hand, few men more deserve the Sunday's rest than gardeners. Employers should exact as little from them on that day as possible. We know that in some places it is the most harassing day of the seven. Employers—often, it may be, as a mark of mistaken kindness—will take their gardeners along with them over the demesne, and plan future arrangements with them, totally oblivious of the fact that the gardener has had enough of walking for six days already. Others have a habit of giving orders for hampers and packages chiefly on that day. In many cases the man who attends the house finds it the worst day of the seven.

Now in the one case, whilst the gardener must see his plants do not suffer on Sunday, he, in my opinion, would be quite right if he courteously declined to enter on mere matters of business on that day I have known cases of the ablest men of the day leaving their places because they found themselves unable to prevent the Sunday being made the chief business day.

One thing is quite certain, which is that we shall never be able to make plants in pots so intelligent as "to take care of themselves" in all cases on Sunday, and just as we would feed a horse when he needed it, so would we without hesitation give a little water to a drooping plant; but though we should never question this as a work of necessity, if not of mercy, I would, on the other hand, never allow the principle to be made the excuse for keeping a man in charge on Sunday, or the gardener in a small place almost if not as much employed on Sunday as on other days. Whilst a dry plant is not to be left dry, I think it wrong, unless in extreme cases, to require a gardener to water as much, if not more, on the day of rest as he would require to do in one of the regular six working days. In fully one-half of the year very seldom will a plant in a pot need watering, and even in the height of the summer such watering will be little needed if the plants are looked over in the last working hours on Saturday afternoon or evening.

By a simple arrangement such as that outlined I think employers and gardeners may work comfortably together without any wounding of a tender conscience on the one hand, or taking undue moral responsibility on the other.—J. WHITE.

Pear Beurré du Buisson.

ON November 20th Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, exhibited at a meeting of the Royal Horticultural Society examples of Pear Beurré de Buisson, for which the Fruit and Vegetable Committee recommended a first-class certificate. A typical example is represented in the accompanying illustration, and Mr. Divers obliges with the following excellent description:—

Fruit large, $3\frac{1}{2}$ inches long and $2\frac{1}{2}$ inches wide, and upwards; shape obovate, sometimes approaching to pyriform; eye small, open, and set in a shallow basin; stalk about three-quarters of an inch in length, often set obliquely, and surrounded by fleshy protuberances; skin pale green, changing to pale yellow when ripe, thickly spotted with russet, and flushed with red on the sunny side; flesh white, melting freely, juicy, sweet, and aromatic. The fruit has a fine perfume, it ripens about the third week in November, and keeps fit for use several weeks after it is ripe. This Pear was received at Belvoir Castle Gardens by the late Mr. W. Ingram many years since from Messrs. Van Houtte, and has since been distributed to many nurseries and gardens. The tree is of good healthy constitution, and quickly comes into bearing. Like many others of our best Pears, it is often of better flavour from pyramid trees in the open than from wall trees.



FIG. 131.—PEAR BEURRÉ DU BUISSON.

Shrubs and Trees.

MANY persons at the present time are either engaged in or about to commence this operation, which cannot be regarded otherwise than one of the most important connected with gardening. The evil effects that result from planting injudiciously and bad management of the plantation afterwards are painfully visible in too many gardens, and a note of warning at this period may be seasonable. Planting and the management of the plantations afterwards are in a measure so closely connected that it is impossible to consider them separately if trees, plantations, and shrubbery borders are to prove in the future ornamental and interesting. It matters very little what care is taken at planting, or what striking objects it is intended shall eventually be displayed, if the plantations are not attended to afterwards, for upon this entirely depends whether the end in view is ever attained. Good planting with thoughtful care in after management will result in the development of noble symmetrical specimens, each possessing characteristic features of interest and beauty. Badly managed plantations and shrubbery borders produce exactly the contrary—a confused mass of vegetation struggling for existence. For a time crowded luxuriant vegetation may appear beautiful to all, but an experienced man at once discerns the work of destruction that is going on, and knows only too well that the whole will be ruined in a few years.

Shrubberies.

Plantations and shrubbery borders should be attended to annually, unless severe thinning is practised, and all trees and shrubs thinned out that are likely to crowd those to be retained for the future ornamentation of the grounds. Every tree or shrub that will interfere with the proper development of these should be lifted and planted elsewhere. This is not always practicable, and in some instances not desirable, for it depends whether those planted to fill up are really worth lifting. They can, however, be cut back by degrees, so that a great gap is not caused until they can be spared altogether. It is

much better to sacrifice all that are not wanted, whatever they may be, directly they are becoming crowded, than allow them to grow together to the destruction of all.

When planting is done close to the house it is frequently necessary to plant more thickly at first than need be the case in other positions, so that a furnished appearance is presented at once. Under these circumstances mistakes are often made, and when the trees want more room the whole must be turned over, for thinning cannot well be done in any other way if due provision was not made at the commencement. The future even in these cases must be considered, and the plants so arranged that thinning when required can be done readily and easily without having to lift those plants that are intended to develop into specimens to furnish the space planted. When the whole have to be re-arranged the plants are checked and growth for a year or two at least rendered less robust. It is necessary in many instances to avoid this, especially when an endeavour is made to grow the plants into specimens as early as possible.

When planting, say, a clump of Hollies, it is wise to dispose the principal plants sufficiently far apart that they can attain to full size without having to be removed afterwards. The space between them can be filled with similar plants, or others to be re-lifted and planted elsewhere as the permanent plants develop. After these are removed those intended to remain will have attained some size, and the ground between them can be levelled and sown with grass seeds, if this can be done to improve the view or appearance of the ground. If not, and the plantation looks thinner than it is desirable to have it, a few smaller plants can again be placed for a season or two. Bulbous and herbaceous plants may occupy the ground for a time.

Something more than merely digging a hole, putting the roots of a tree in it, and then covering them with soil is needed. Planting with a view to the trees developing into grand specimens necessitates a thorough knowledge of the tree or shrub to be planted; its natural habit of growth, and the size to which it will attain under favourable conditions must be taken fully into consideration. Many mistakes are made through insufficient knowledge of these matters, and also for the want of knowing the surroundings and conditions under which trees, shrubs, and Conifers are displayed to the best advantage. The last is really a matter of observation rather than practice and experience, for much valuable information can be gained by observing the conditions and position under which certain deciduous trees and evergreens look most beautiful. My advice is to note particularly these matters, for the information so gained will prove invaluable to them in the future when the responsibility of this work devolves upon them. It may save many blunders which a lifetime would prove insufficient to rectify.—W.

(To be concluded.)

Beauties of Richmond.—The Mayor of Richmond, Sir James Szlumper, speaking at the mayoral banquet, announced that Glover's Island, at the foot of Richmond Hill, the fate of which excited so much public anxiety a short time since, had been purchased by Mr. Max Waechter, Deputy Lieutenant of the County of Surrey, and had been presented by him as a free gift to the Corporation of Richmond, subject to the present unsightly building being pulled down and no others being erected except a keeper's lodge, and to the banks being maintained and to the island being planted. The announcement was received with great enthusiasm.

Tacsonias.

THE Passionworts comprise some of the most gorgeous of tropical climbers. In their habit of growth the Tacsonias resemble very closely the common Passion Flowers, being, like most of them, of vigorous growth, the shoots extending 10 or 20 feet in a season, according to the age of the plant. The resemblance between the two genera is indeed carried so far that some of the most acute botanists of the present day are unable to give the precise grounds for the separation of the Tacsonias from the true Passion Flowers.

The chief interest of these plants centres in their elegant scarlet flowers. These are, at a glance, seen to consist of ten segments or divisions, the lower portions of which are united into a tube, surrounded at its base by three leaf-like bodies termed bracts. These bracts are common not only to the Tacsonias, but also to all the other Passion Flowers, though in a few species they are placed at a considerable distance below the flower, and are extremely small. In one or two

species they are cut into hair-like segments, and give a very interesting appearance to the flower, as in *Passiflora ciliata* and *P. foetida*. These bracts are not much larger in *T. manicata* than in many other Passionworts; but from the shortness of the tube, which is almost concealed when the flower is expanded, "it may not inaptly be compared to an arm thrust into a large, loose glove;" from which circumstance it is presumed that Jussieu gave it its specific name of *manicata*, or gauntleted.

The fruit is not the least remarkable part of the plant. In *Tacsonia pinna-tistipula* it is 5 or 6 inches in circumference, spherical, and when ripe of a yellow tint, hanging by the very long peduncle to which the remains of the flower are usually attached. The seeds are surrounded with a pulpy arillus of an edible nature, especially in a few species, which are not unfrequently cultivated for the sake of their fruit, as *P. edulis* and *P. quadrangularis*.

T. manicata may be increased by cuttings either of the old wood in spring or of short young shoots in summer, under a bell-glass with a little bottom heat. When grown under glass most of the Tacsonias will ripen seed, from which they may be readily increased. The name of the genus appears to be a Latinised form of *Tacso*, that by which the plants are known in Peru. There are several species.

We must not omit to observe that the shoots of the Tacsonias do not require shortening, but if they are too crowded they may be thinned-out while young. When the growth is too rampant and sterile of blossoms, a flowering habit may be induced by training the shoots horizontally, or nearly so.—T. W.

Tacsonia militaris.

It is very seldom indeed that visitors to the meetings of the Royal Horticultural Society, held in the Drill Hall, find Tacsonias, either new or old, on exhibition. On Tuesday, November 20th, however, Messrs. F. Sander & Co., St. Albans, contributed *T. militaris* (fig. 132), for which the Floral Committee recommended a first class certificate. The varietal name of the plant was, we are informed, given because the colour of the beautifully formed flower is precisely that of a soldier's crimson scarlet tunic.



FIG. 132.—TACSONIA MILITARIS.



Pistachio Nuts.—Pistachio vera, the species which yields the eatable Pistachio Nuts of commerce, is deciduous, growing about 20 feet high, and a native of Western Asia. It is largely cultivated throughout Southern Europe. Its fruits are oval-shaped, nearly an inch long, and contain a seed with bright green cotyledons. According to a Ceylon paper the nuts are largely eaten by the Turk and Greeks, and also by the people of Southern Europe, either simply dried like Almonds, or made into articles of confectionery. Baron Von Mneller, in his list of plants for industrial culture, refers to an ingenious method of inserting the Pistachio seeds into dry Figs, to secure their power of germination during transmission to remote places.

Covering Wounds in Trees.—An Antipodean authority says that the wounds made in the stems of trees by pruning or otherwise should have the wood preserved to keep it from decay till the new bark and wood extends over it, but he thinks gum shellac dissolved in alcohol far better than paint. He advises to put the shellac into a wide-mouth bottle, cover it with alcohol, and let it stand twenty-four hours, when it may be applied with a swab or a brush. It serves, as nearly as may be, as the substance of bark; is not affected by heat, or cold, or wet, or dry weather; and retains the sap up the cut, healing the wounds without a scar. Limbs should be cut off slantingly; never square on top, as is sometimes done.

American Forestry.—American forestry has not yet gone beyond the preservation of our old forests, for general reasons. Tree culture for profit, according to a transatlantic contemporary, which forestry signifies in the Old World, is here not thought of, nor will it be while we have forests to burn. In the Old World forestry is a business. The artificial, hand-made forests of France, and especially Germany, supply most of the timber used in those countries. England depends on outside sources almost wholly for its timber. England paid about ten millions of dollars for foreign timber last year. Her bill is annually growing larger. But it is slow work to make a profit on timber planting. Thirty-five years is long to wait.

Grasses worth Growing.—About fifty species of Grasses are recognised in the British Flora as indigenous to the British Isles. Of these only about a dozen possess much claim to recognition as of practical value for farmers. There is a difference of opinion as to the relative values of several of these Grasses, but there is no dispute as to the excellence of such well-known pasture plants as perennial Rye Grasses, Cocksfoot, Meadow Foftail, Timothy, smooth and rough-stalked Meadow Grass, and two or three of the Fescues. For all these, says the "Farmers' Gazette," a place should be reserved in mixtures of seeds for permanent pastures, while several of them should also figure prominently in seed mixtures for "rotation Grasses."

Forcing Rhubarb.—Rhubarb does not force so readily in December as after the new year commences, but it is quite possible to obtain useful forced produce by placing roots of suitable early varieties in a strong moist heat during December. A temperature of 65° to 70° surrounding the roots during this month will produce the desired sticks. They are, however, better in appearance and quality when forced steadily in a rather lower temperature. Warm corners near hot-water pipes will bring on the stalks, but the clumps should be covered in a dry atmosphere and surrounded with soil that ought to be constantly moist. Sprinkle the crowns daily to assist them in swelling and bursting. Failing a suitable position in a heated structure form a hotbed of leaves and manure in a frame and place a number of roots on this, first covering with soil and introduce some between. A light watering may be given at first, but afterwards little will be required, as the moisture from the manure condenses and provides sufficient to maintain the proper degree of dampness, but should the soil dry then apply a good sprinkling of tepid water. Later supplies of clumps not needing so much heat and forcing as the earliest may be placed in any warm corner under glass, whether in light or darkness. If the clumps are kept damp soil is not necessary to surround them, but it is often found of great advantage. Under the stage or on the floor of a greenhouse are suitable positions. Roots three to five years old are the best for forcing. Albert and Linnæus are good varieties for early supplies, Victoria for later.—E.

Flowers on Tombs.—In Turkey, and certain parts of Asia where Mohammedans abound, a Mussulman's grave is never opened again in any case. In order to avoid the least attempt the graves are huddled together, and immediately after the funeral a Cypress is planted on the grave, so that their cemeteries resemble a sort of forest. In the island of Jimor as soon as the grave is filled up a young Palm is planted. The custom of floral and plant offerings in homage to the dead has been general from time immemorial. The ancient Greeks not only strewed flowers over the grave, but also planted Asphodel and Mallow, because the seeds of these plants were supposed to serve as food for the dead. Romans, like the Greeks, attributed a special value to the Rose as a funeral flower, and left instructions that after death their graves be planted with the favourite flower. At the present day in Wales white Roses are placed on graves of young girls. Chinese plant Roses, Anemones, and a species of Liquorice on their graves. The people of Madagascar have a species of Mimosa which is frequently found planted in their cemeteries.—("La Semaine Horticole.")

Planting Raspberries.—This is a good time to make new lines or new beds. If fine fruit and an abundance of it is desired, there is no greater mistake than allowing old stools to continue in the same position and unchanged for years. I like to make new lines every four or five years, using fresh bushy-rooted plants, and as my soil is not rich, and I have to plant in the same position—against a north wall—I use fresh soil with a little manure added. I had been growing Baumforth's Seedling, a fine large red fruit, but liable to degenerate if not attended to, and throw out too many suckers. I got some plants a few years ago of a new variety from a Limerick gardening friend, which I learned he had from Mr. Rivers, of Sawbridgeworth Nurseries, named Hornet. This is comparatively dwarf, produces large trusses of splendid fruit, admirably suited for preserving; and as it throws up much fewer suckers, or unnecessary shoots, the soil around is not so soon exhausted. I am now giving this variety preference, and can recommend it to amateurs like myself where space is a consideration.—W. J. MURPHY, Clonmel.

Attention to Asparagus.—If Asparagus beds have not been cleaned and set in order for the winter, the work ought to be done at once, before the soil becomes too wet or hardened by frost. The usual plan of winter dressing is to clear the beds of dead stems and weeds, slightly fork up the surface, and apply a dressing of manure, or some thoroughly decomposed vegetable compost. If the soil is of a close character, decayed and heavy manure is not suitable, as it will be more likely to keep the roots wet and cold. Employ material of a light and open nature, such as hotbed refuse mixed with half quantity of decomposed leaf soil and burnt refuse. For light soils half-decayed cow manure may be employed about 2 inches thick, while the burnt refuse from a smother is also good. Sprinkle soil over the manure on the beds and trim the sides straight and even with the spade, finally forking up the alleys between the beds. It is as well to give beds that have been heavily manured annually a rest for a year or two, provided the ground is rich in humic matter; but if manure is omitted a substitute should be given, and this may consist of old vegetable soil mixed with wood ashes or the material from a "smother." Fine gritty matter or anything that will keep the soil open is good for heavy retentive ground.—B. H.

Convolvulus Cneorum.—The Silvery Bindweed is a dwarf shrub from Greece with lanceolate leaves. It grows about 18 inches high, and is of semi-procumbent habit, which renders it very effective on the dry sunny aspect of rockwork, where it is hardy in all but the severest winters. The plant is evergreen, and bears a number of shining white flowers, which have the glitter of pearl, and, like it, are slightly tinged with red. Being of free growth, it soon forms a spreading low bush. Cuttings rooted in late summer, wintered in a cold frame, and planted out in spring, form a bush nearly a yard across by September, during which it commences flowering and continues until frost. In order to guard against mishap from frost it is well to root cuttings in August under a hand-light, pot them when rooted, and winter in a cold frame or house. It may be mentioned that plants raised in this way, grown in a cool house, and shifted into larger pots as required, are very showy for conservatory decoration. The flowers are borne like those of *C. mauritanicus* at the points of the growth, hence stopping must not be continued longer than is needed to lay the foundation of a compact plant. Although not nearly so trailing in habit as *C. mauritanicus* it makes a desirable basket plant, but is best seen as a rock plant. It does well in loam with a little leaf soil or decayed manure, and sand to keep it open. Good drainage is essential.—A. G.

Torenia Culture.

THESE are amongst the most beautiful of softwooded stove plants. When first I saw *T. asiatica*, which was discovered by Torenia, a Swedish clergyman, in China, with its marbled-like, blended colours of blue, purple, and light lilac, I thought it was among plants a gem of the purest water. The blossom is tubular, and monopetalous in its corolla, which is generally divided into four segments. The two upper stamens are conspicuous in the throat of the flower, joined together so as to form a beautiful arch, while the anthers, cohering and projecting, might convey the idea of an ornamental architectural keystone.

Toreniae are readily raised from seeds sown in spring, the plants being treated as annuals; but increase is best effected by cuttings when a plant is already possessed. They are easily rooted in autumn, either with or without bottom heat, but will root quicker and more surely if placed in a cold close pit for a week, and then plunged in a little bottom heat. But why take off cuttings now, instead of preserving an old plant, and waiting until spring? Simply because, without entering upon the physiological bearings of the question, autumn rooted cuttings generally bloom more profusely than those inserted in spring. Without making the Torenia a peg on which to hang general deductions, several things must be attended to for obtaining large plants in such a short time.

Our plants are grown very rapidly under the partial shade of Vines; the flowering principle being brought into operation when exposed to more light. They should always be screened from very bright sunshine. The one-shift system, or nearly so, must be resorted to, and rough and lumpy soil be used. Those who shift their plants frequently, and use fine soil, must have patience in waiting longer for a large specimen. Water must be given with judgment. If the grower cannot water them himself, and must depend upon an assistant, who gives everything in turn its regular pouring from the water-pot, then be content with frequent shifting. Liquid manure may be given sparingly the first season, liberally the second. The difference of treatment, as regards stimulants in the first and second year, is based upon the principle that if applied the first year there would be fine growth, but little flowering. After the comparative standstill treatment of winter, there would be a great tendency to blooming the second year, and, therefore, to maintain for a long period that flowering process, growth by stimulation must be continued.

If kept a second year in the same pots, the plants will bloom profusely, if, after examining the draining, they are top-dressed with equal proportions of rough soil and dried cow manure. Plants thus managed exhibited a profuse mass of bloom in a verandah from the end of April to the end of October. They were then removed, as aphides had appeared. I find that, even in attempting to keep them in a dormant state, the temperature should not be below 40°, and after the month of January they should have a little more, and all the light you can give them. I find, also, that many tender plants if injured to it gradually will stand much more cold before the days begin to lengthen than they will do afterwards. This fact is of importance to be known to those with limited means, who yet may have a forcing house of some sort, which they set in motion at the beginning of the year, as there many tender plants may get a lift for a couple of months.

The Toreniae I have had in bloom this year till September completely concealed trellises between 3 and 4 feet square; others are trained on circular trellises, others as bushes, 3 feet in height and 3 feet through. A young Larch or Spruce tree, peeled in the spring, with all the twigs peeled and retained, makes a nice support for all such plants to ramble over. Grown in baskets, and suspended so that the shoots hang gracefully down, studded with blossom, is also a very interesting method of treating them.

All my plants have stood in a glass-protected verandah for nearly three months beautifully in bloom, but not equal to the old plants formerly alluded to. Fresh potted or top-dressed in spring they will be ready for another summer's campaign. All of them were cuttings a little over a year ago, and potted into 60-sized (3-inch) pots in September, removed with many other things to the shelf of a stove at the end of October, kept in a temperature of from 55° to 60°, stopped to make them bushy, shifted into a size larger pot at the end of February, moved into 12-inch pots in March, watered carefully so as not to deluge the unappropriated soil until the roots began to work their way into it, then removed under the shade of Vines that had shortly before shown fruit, trained, and from thence taken to the verandah at the end of May.

I may add that the Toreniae flourish in equal proportions of loam and peat, with a dash of silver sand. The soil should be rough and the pots well drained. A few pieces of charcoal would be useful for both purposes.—R. F.

Beans in Frames.

THOSE engaged in forcing Kidney Beans in winter know how difficult it is to keep up a succession during the dull months, but the season of this very useful vegetable may be prolonged in autumn by very simple means where there are frames with a single flow and return pipe in them. My first sowing here was made on September 17th in small pots. As soon as these were forward enough they were planted in a long frame, and are now giving very useful gatherings. They followed Melons, and will be out in ample time for planting early Potatoes, so although so useful they may be regarded quite as a catch crop. A sowing made ten days later is well set, and will follow the first batch.

I have a liking for bone dust as a manure for this crop, and although at first sight it may appear extravagant to use a manure of this kind, it must be remembered that the Potatoes will be planted in the same soil, so that whatever is unexhausted at the time the Beans are removed will benefit these. Another advantage in using the frames now is that it allows ample time for cleaning and thoroughly overhauling forcing houses that are to be used for this important crop, whereas had these batches been grown therein there would probably have been the fag end of some summer crops still remaining, and with them possibly a stock of insects ready to feed upon the fresh young Bean foliage.—H. R. RICHARDS.

Royal Horticultural Society.

Drill Hall, December 4th.

THE meeting in the Drill Hall on Tuesday was one of the smallest we have seen for some considerable time. However, exceptional size does not always spell excellence of quality, and the Orchids especially were of the greatest interest, *Cypripediums* being particularly attractive. In the floral section Veitch's winter flowering *Begonias* were the brightest feature. Fruits and vegetables were fair in numbers.

Fruit Committee.

Present: G. Bunyard, Esq. (in the chair); with the Rev. W. Wilks, and Messrs. H. Markham, G. Norman, E. Beckett, J. Smith, F. Q. Lane, H. Balderson, G. Wythes, C. Herrin, G. Woodward, W. Farr, W. Bates, S. Mortimer, A. Dean, J. H. Veitch, W. Pope, J. Wright, G. Kelf, E. Shaw Blaker, W. Poupart, H. Esling, J. Cheal, and J. Willard.

Messrs. Dobbie & Co., Rothesay, contributed a collection of fourteen varieties of garden Turnips, of which the best were Dobbie's Model and Dobbie's Golden Ball. The exhibit included also a number of varieties in which Model was plainly observable as a parent. From the same firm came magnificent examples of Leeks Dobbie's Champion and International Prize; they were very long, of fair girth, and well blanched. Messrs. H. Cannell & Sons, Swanley, sent some handsome Parsnips Cannell's Prizewinner. They were clean, of good colour, and of very large size.

Pear Charles Ernest was contributed by Messrs. Jas. Veitch & Sons, Chelsea; the fruits were clean and attractive in appearance. Mr. J. Watkins, Withington, Hereford, sent a dish of Crab Quaker Beauty. It is an American variety of large size, yellow with a bright red cheek. Mr. Watkins sent also Apple British Queen, a very handsome variety that should attain to a large measure of popularity. Mr. G. Woodward, gardener to Roger Leigh, Esq., Barham Court, Maidstone, showed a dish of Pear Nouvelle Fulvie, which is one of the finest flavoured varieties in use in December.

Some time back Mr. W. Crump, gardener to Lord Beauchamp, Madresfield Court, Malvern, offered to send Grape Black Morocco for comparison with the new Diamond Jubilee. The true Black Morocco was in evidence, but Diamond Jubilee was conspicuous by its absence.

The following resolution relative to the sad illness of Mr. Philip Crowley was proposed by Mr. Alex. Dean and seconded by Mr. H. Balderson:—"This committee learns with profound regret of the resignation by Mr. Philip Crowley of the office of chairman, which he has so long and so admirably filled, and hereby records its sense of the great loss sustained by such resignation. This committee further desires to tender to him in his illness its sincere sympathy, and to express the earnest hope that under medical skill he may yet be restored to health, and once more occupy his former position at this table."

Floral Committee.

Present: W. Marshall, Esq. (in the chair); with Messrs. C. T. Druery, H. B. May, G. Reuthe, J. Jennings, J. Hudson, J. F. McLeod, C. J. Salter, C. R. Fielder, C. Jeffries, J. Fraser, J. D. Pawle, C. E. Pearson, C. E. Shea, R. Wilson Ker, and H. Turner.

Messrs. J. Veitch & Sons, Ltd., Chelsea, were represented by a most handsome exhibit of winter-flowering hybrid *Begonias*. The plants, in 3-inch pots, were about a foot, and had been raised from cuttings

inserted in August; they carried excellent flowers. The varieties included Ensign and Winter Cheer, both of which are very bright. Messrs. Veitch sent also plants of the now comparatively rarely seen *Luculia gratissima*, of which the flowers diffused a pleasant fragrance (silver Flora medal). Messrs. H. Young & Sons, Chesbunt, sent a group of Pansies in various colours.

A small group of Chrysanthemums was arranged by Messrs. W. Wells & Co., Ltd., Earlswood, Redhill. The varieties included Mrs. J. Bryant, Mrs. C. Bown, Sir Redvers Buller, Letrier, Robert Laird, and Mabel Morgan (bronze Flora medal). Chrysanthemum Luckwood White was shown by Mr. R. Holmes, Norwich; it is a free-flowering white variety. One or two other Chrysanthemums were also shown. Messrs. H. Low & Co., Bush Hill Park, sent Croton Mrs. Thomas Young and Carnation Mrs. T. W. Lawson, the variety which created such a furore in America. Messrs. G. Boyes & Co., Leicester, sent Carnation Lady Carlisle and several other varieties (bronze Banksian medal).

Orchid Committee.

Present: H. J. Veitch, Esq. (in the chair); with Messrs. J. O'Brien, de B. Crawshay, H. Little, H. M. Pollett, H. Ballantine, F. Sander, H. J. Chapman, W. H. Young, W. H. White, W. Thompson, E. Hill, J. Colman, J. G. Fowler, and J. Douglas.

A very attractive group of Orchids was arranged by Messrs. H. Low & Co., Bush Hill Park. It comprised *Cypripedium insigne* Harefield Hall variety, *C. i.* Laura Kimball, *C. Prospero*, *C. Tityus*, *C. Actæus*, *C. Memoria Moensi*, *C. i.* Sanderæ, a fine form of *Cymbidium Traceyanum*, *Oncidium Mantini*, and *Cattleya Dowiana* (silver Banksian medal). Mr. H. Ballantine, gardener to Baron Schröder, The Dell, Egham, contributed a most interesting group of *Cypripediums* (silver Flora medal). Mr. Johnson, gardener to T. Statler, Esq., Stand Hall, Manchester, sent *Cypripedium Mandiæ*, *C. Francesi*, *C. insigne* Luciani, and *Dendrobium bigibbum rubescens*.

The great feature in Messrs. J. Veitch & Sons' group of Orchids was the set of plants of *Cypripedium insigne* Sanderæ; they were very beautiful. Other plants were *Cypripedium Lceanum superbum*, *C. vexillarium*, *C. Tityus*, *C. T. B. Haywood*, *C. Morganæ*, *C. Arthurianum pulchellum*, *C. Lathamianum*, *C. Actæus*, *C. Prospero*, *Lælio-Cattleyas* violetta, terentia, Decia, Lady Rothschild, Semiramis, Pallas, and the Hon. Mrs. Astor, with *Cattleyas* Portia, Mantini, and Dowiana (silver Flora medal).

Small exhibits of Orchids were contributed by Messrs. J. Colman, Warpur, G. W. Bird, C. J. Salter, J. Davis, G. T. Hood, F. Crisp, J. Hamilton, W. H. White, Otto & Frœbel, and others.

Certificates and Awards of Merit.

Chrysanthemum Golden Gem (G. W. Bird).—A splendid single variety with large rich yellow flowers (award of merit).

Cypripedium Prospero majus (J. Veitch & Sons).—This is a very beautiful flower with pale green sepals, petals, and pouch with sparse suffusions of brown. The base of the dorsal sepal is bright green with pure white above and brown and maroon spots (award of merit).

Odontoglossum Rolfe mealegris (W. Stevens).—This is a superb Odontoglossum. The ground colour of the sepals and petals is milk white with occasional rose, and a profusion of mauve markings. The lip is white on the front portion with maroon spots and blotches at the base (first-class certificate).

Pear Nouvelle Fulvie (G. Woodward).—This excellently flavoured Pear is too well known to call for any descriptive remarks (first-class certificate).

Pear Charles Ernest (J. Veitch & Sons).—Fruit rather over medium size, handsome and even in shape. The smooth skin is rich yellow, with a bright flush of red on the sun side; the flavour is excellent (award of merit).

Mr. A. Donald Mackenzie on the Heating and Ventilating of Glass Houses.

The subjects of the heating and ventilating of glass houses are so broad that it becomes an impossibility to deal exhaustively with them in the limit of time allowed at the afternoon meetings in the Drill Hall. It may, however, be said that Mr. Mackenzie (who is a member of the well known and highly esteemed firm of Mackenzie & Moncur of Edinburgh) crowded just as much information into his half hour as could reasonably be expected from any man. His grasp of the subject was evident from the first word until the last, and he launched himself into it without a superfluous word of introduction.

With the vastly increased wealth and prosperity that had come to England during the past fifty years there had been a commensurate increase in the number of glass houses. To maintain an equable temperature in these was a matter of some difficulty, greater or lesser, according to circumstances. The days of the old brick flue had, said Mr. Mackenzie, gone, and we now practically placed entire reliance upon hot water circulating through pipes of varying diameters. In this practice we were confronted at the outset with the apparent anomaly of water circulating upwards, and this was explained by the expansion of water owing to the heat, which finding less resistance in an upward direction it passed to the top of the boiler in which the flow

pipe was always situated, making its journey and returning by the return pipe, which was always attached to the boiler at the lowest possible point. To assist this circulation there was always a rise in the pipes from the sunken stokehole containing the boiler to the extreme end of the pipes. Attempts had been made to avoid sinking stokeholes, but they had invariably been followed by failure. All things considered, 4-inch pipes were the best and most commonly used, though both smaller and larger sizes were met with occasionally.

In fitting any structure with hot-water heating apparatus it was absolutely necessary, proceeded the essayist, to provide for the coldest day or night. It did not follow that the minimum would be reached every year, but when it did come there was little or nothing to fear, provided the apparatus was efficient. It was the falsest of false economy to be niggardly of piping and boiler power when fitting houses, and the suggestions he was about to make were based on the safest lines. For a conservatory necessitating a minimum temperature in winter of 45° 1 foot of 4-inch piping was recommended for every 35 cubic feet of air; for a warmer plant house, 1 foot for every 20 or 25 cubic feet; for stoves and Orchid houses, 1 foot for every 12 or 13 cubic feet; for early vineries, 1 foot to every 12 or 15 cubic feet; for span-roofed intermediate vineries, 1 foot to every 17 cubic feet; for early Peach houses, 1 foot for every 17 or 20 cubic feet; and for late Peach houses, 1 foot for every 25 or 28 cubic feet of air. These figures were given as approximate, and would provide the necessary temperatures with ease. In a forcing house, continued Mr. Mackenzie, in addition to the four rows of 4-inch piping in the side chambers, there should be one above the bed on each side, and also pipes beneath gratings in the path.

In making brief reference to boilers Mr. Mackenzie alluded to the controversies that had been conducted on the subject. The old saddle boiler with water bars he considered very good and economical, but he would not recommend it for heating more than 700 feet of 4-inch piping. The terminal end saddle was advocated for from 500 to 2000 feet of 4-inch piping, and for upwards of this he recommended the Cornish steel boiler as most admirable; with reasonably good draught it was very efficient, and could be improved by the use of water bars, as also could the terminal saddle type. The essayist touched upon the American sectional cast-iron boiler, but was not greatly in favour of them, preferring those of malleable iron or steel, as with these there was less liability to accident.

To maintain a constant and satisfactory circulation when the amount of glass was limited and confined to a small area was easy, the difficulties becoming greater and greater as the distance increased. Efficient working was then largely a matter of valve manipulation, and the most careful consideration of local conditions were regarded as absolutely essential to success. Mr. Mackenzie dismissed ventilation in a very few words, observing that top and bottom ventilators were necessary, and that cold draughts directly upon the plants must be avoided. For warm houses, he said, the lower ventilators must be in such a position that the incoming air would be warmed by contact with the pipes before reaching the plants themselves.

The lecture was much enhanced in value and interest by the exhibition of a series of large illustrations of various types of boilers, structures, and heating apparatus. Unfortunately, however, the space was so limited that a number of drawings provided by Mr. Mackenzie could not be exhibited at all, while those that were shown were somewhat too much packed to allow of their proper elucidation. Probably the best of those exposed were in relation to boilers, of which several examples were shown. It may be presumed that the whole of the drawings will be reproduced in the Journal of the Royal Horticultural Society, where they will be studied with appreciation and advantage together with the complete text of the paper.

When Mr. Mackenzie had finished, Mr. H. J. Pearson of Beeston, who occupied the chair, made a few pointed remarks on both heating and ventilating glass houses, and subsequently strongly deprecated the practice of some people of getting estimates for structures from several builders, and then accepting the lowest tender irrespective of whether the firm would be likely to supply the best materials or not. At the conclusion Mr. Mackenzie was accorded a most hearty vote of thanks for what must be regarded as one of the most valuable papers that has been read in the Drill Hall for some considerable time.

A Century Record.—In the century now closing, according to Prof. S. H. Vines, F.R.S., the number of recognised living species of plants has increased from 10,000 of Linnæus to 175,596, made up of 105,231 flowering plants, 3352 Ferns and Fern allies, 7650 Mosses and Moss-like plants, and 39,263 Fungi, Lichens, and Algæ. Prof. Saccardo estimates that the number of species existing is more than twice those yet known, or about 400,000. The growth in number of species has not been due to the discovery of any essentially new type of plants, and the only extension of the bounds of the vegetable kingdom has been through the annexation of groups formerly assigned to zoology. The bacteria, discovered 200 years ago, form the most notable of such groups, having been regarded as infusorian animals until their affinity with the fungi was recognised by Cohn in 1853.

The Nepenthes House at Kew.

UNTIL 1897 the collection of *Nepenthes* at the Royal Gardens, Kew, was distributed between the private houses and the warmer parts of the T range, an arrangement anything but good for the health of plants which, perhaps more than any other family, call for special treatment. In addition, it was difficult for visitors studying the genus to form any idea of the extent of the rich and varied collection. In the above year a special house was built for these plants that has amply met the requirements in both ways. The house is a light, span-roofed structure, running parallel with and the

thriven amazingly, in many instances growing beyond all recognition; tiny bits planted a year ago are now large masses. A few of the most noticeable specimens are *Calathea ornata regalis*, 6 feet high, with the blades of the leaves 2 feet long by 1 foot wide; *C. Gouletii*, 2 feet high, with pretty silver and green leaves; *C. rufibarba*, a large, dense mass; *C. angustifolia*, a fine clump, 4 feet high; and *C. eximea*, a handsome group. The leaves of the latter are very effective by means of their metallic surface and purple reverse. Of *Marantas*, *discolor*, 4 feet high, with branched stems, and *M. picta*, are very good. *Anthurium Warocqueanum* is represented by a handsome specimen with very large leaves, while groups of *A. Scherzerianum* and other species give variety.

The rare and difficult *Leea amabilis splendens* is doing exceptionally



FIG. 133.—STROBILANTHES DYERIANUS.

full length of the stove. It is 70 feet long, 12 feet wide, and 9½ feet high, with a central path, the plants being suspended from the roof on either side.

The number of species and varieties grown is about fifty. Upwards of eighty baskets are hung in the house, all containing well-pitched specimens. Some of the most noticeable are *N. albo-marginata*, a distinct looking species from Singapore, with rosy hued pitchers and leaves; *N. Curtisi*, several plants, one carrying sixteen large pitchers; *N. Mastersiana*, with eighteen pitchers; *N. Pervillei*, with eighteen pitchers; a very fine plant of *N. superba*, with upwards of two dozen pitchers; *N. Sanderiana*, with four pitchers; a good plant of the curious *N. ventricosa*; and many others. The general effect of the plants is added to by plants of *Vitis* (*Cissus*) *discolor*, which have been trained along the roof, and hang in festoons between the baskets and over the path.

Beneath the *Nepenthes* the borders on either side of the path have been turned to good account. With the aid of stones and tree-roots well drained raised borders have been made, on which are planted such things as *Calatheas*, *Marantas*, a few species of *Costus*, *Anthrums*, and numerous other stove foliage plants, many of which were of slow growth in pots. In the warm moist atmosphere the majority have

well, the deep green velvety leaves with their white veins and red stems being very attractive. The pretty *Xanthosoma Lindenii*, which often does poorly as a pot plant, is making large, well-coloured leaves, and looks perfectly at home. *Strobilanthes Dyerianus* (fig. 133) is seen very well coloured; several species of *Fittonia* make fine, carpet-like masses. *Æschynanthus Lobbiana* and *pulcher* are growing luxuriantly on large roots; *Costus elegans* and *igneus* are very effective with their large orange-coloured flowers; while a large plant of *Dichorisandra Aubletiana* var., covered with dense heads of deep blue flowers, makes a fine show. Altogether the house is very interesting and attractive, and is well worth a visit from all interested in these particular plants.

Playground for Southwark.—In connection with the Falcon Court housing scheme, in the parish of St. George-the-Martyr, Southwark, the local authority has urged the Council to reserve an area of some 1588 yards as a playground for children. This will cost the Council about £5600, and owing to the crowded state of this neighbourhood the Parks Committee urge the Council to sanction the expenditure.

Notes on Figs Under Glass.

WHERE a house of this much neglected fruit was started in November with fermenting materials, the trees are now showing signs of growth by the swelling of the terminal buds; the roots also that were cut back are sending forth fresh feeders through the compost placed about the pots, this desirable state of things being effected under the genial heat of the fermenting materials. These should now be examined, and if the heat does not exceed 75° they may be trodden down round the pedestals and bases of the pots preparatory to the introduction of fresh material, which should be properly worked and warmed before being taken in. Take care that the heat about the pots does not exceed 70° to 75° . The heat and moisture given off by the fermenting material will greatly facilitate forcing operations by modifying and reducing the amount of fire heat.

On cold nights the temperature should fall to 50° , and 55° by artificial means will be sufficient in the daytime, with a rise of 10° from sun heat. Syringe trees and walls with tepid water on fine mornings, and again in the afternoon from 1 to 2 P.M.; but with the moisture arising from fermenting materials there will not be the need of this in dull weather; nor must the moisture be excessive, or it will promote growth at the expense of the fruit. Keep the glass clean and free from condensed moisture by ventilating on all favourable occasions.

Where a start has not been made, and it is desired to have ripe Figs in late April or early in May, the trees should be introduced and started forthwith. Low lean-to or three-quarter span-roof houses facing the south are the best. Bottom heat is not indispensable, but it is a great mistake not to utilise material that can often be had for the trouble of collecting, as the heat generated by leaves is a great aid to forcing operations, the trees being accommodated on brick pedestals and the pits filled with fermenting materials, but the heat at the base of the pots must not exceed 70° at the start. It is also advisable to have a few trees of such varieties as Early Violet and St. John's, or Pingo de Mel, to afford early dishes, and rely on Brown Turkey for the main supplies. The temperature should be similar to that advised for trees started in November.

Succession house trees will require attention in pruning, losing no time in getting the work finished; cut back or entirely remove all old spurs, and thin out or remove the least promising shoots that have reached the extremity of the trellis to make room for fresh growths and full development of wood and foliage. The Fig delights in heat, moisture, and good living, with abundance of light and a free circulation of air. Thorough cleanliness is essential to success, therefore spare no pains in cleansing the trees, woodwork, and walls. If brown scale has been troublesome use a mixture of softsoap and petroleum, dissolving 1 lb. of softsoap in a gallon of water by boiling, and on removing from the fire add a wineglassful of petroleum, working in briskly. Apply while hot (135° to 140°) with a brush, using the implement at an angle of 45° to the branch, so that the bristles may get under the scale and dislodge it; then the eggs as well as parent insect comes to grief. Merely drawing the brush over the growths as in painting is the way not to make the most of the dressing, but by pushing the brush upwards or downwards on the shoot or branch and at the angle named the scale cannot escape.—GROWER.

Darlington Autumn Show.

November 23rd.

THE second autumn Fruit and Chrysanthemum Show of the Darlington Horticultural Society was held in the Central Hall, Darlington. The entries were considerably in excess of last year, and in quality surpassed anything of the kind shown in Darlington, and the judges declared the Japanese blooms in vases to be the finest in the show. Owing to the regrettable illness of Mr. J. McIntyre, Woodside, Mr. J. Short, Hummersknott, was responsible for the arrangements of the show, and in this work he was ably assisted by Mr. Raine, Woodside. The hall presented a very interesting appearance, the fruit being excellent, and the Chrysanthemums much admired for their beauty. Cut flowers, sprays, and buttonholes were nicely arranged, and attracted attention. We append a list of the principal prizewinners, as given in a local contemporary.

In the cut bloom section the classes were numerous. For Japanese and incurved—First, Marquis of Ripon; second, Ald. W. Harding, Darlington. Japanese.—First, Marquis of Normanby; second, Mr. A. J. Dorman; third, Marquis of Ripon. Incurved.—First, Marquis of Ripon. Japanese.—First, Mr. A. J. Dorman; second, Mr. A. Nicholson, Boroughbridge; third, Marquis of Normanby. Incurved.—First, Marquis of Ripon; second, Ald. W. Harding. Vases of blooms.—First, Mr. A. M. Dewar, Ainderby; second, Marquis of Ripon; third, Mr. A. J. Dorman. Japanese.—First, Marquis of Normanby; second, Mr. E. Wilkinson, Richmond; third, Marquis of Ripon. Incurved.—First, Mr. J. W. Lee, Clifton Castle; second, Marquis of Ripon; third, Mr. J. Smith, Darlington. Centrepieces of Chrysanthemum blooms.—First, Mr. H. Johnston, Darlington; second, Mr. J. J. Middleton, Darlington; third, Miss N. Hewitson, Darlington. Hand bouquet of Chrysanthemums.—First, Mr. J. J. Middleton; second, Marquis of Normanby;

third, Miss Hewitson. Sprays of Chrysanthemums.—First, Mr. H. H. Hilliar, Darlington; second and third, Miss Hewitson. Gent's buttonholes.—First, Marquis of Normanby; second, Mr. J. J. Middleton; third, Mr. H. H. Hilliar. Plants in pots.—Japanese.—First, Mr. J. Smith; second, Mr. H. Allen, Darlington; third, Mr. H. Johnston. Incurved.—First, Mr. J. Smith. Japanese.—First, Mr. J. Smith; second, Mr. H. Johnston; third, Mr. H. Allen. Incurved.—First, Mr. H. Johnston; second, Mr. J. Smith.

Fruit was admirably shown. Bunches, black Grapes.—First, Mr. J. W. Lee; second, Mr. G. Craig; third, Mr. J. W. Glaister. White Grapes.—First, Mr. A. Nicholson, Boroughbridge. Culinary Apples.—First, Mr. J. W. Lee, Clifton; second, Mr. J. W. Glaister, Darlington; third, Mr. A. Findlay, Grey Towers. Dessert Apples.—First, Mr. J. W. Lee; second, Mr. A. Nicholson; third, Mr. J. W. Glaister. Pears.—First, Mr. A. Findlay; second, Mr. G. W. Glaister. Culinary Apples.—First, Mr. J. W. Lee; second, Mr. G. Craig, Richmond; third, Mr. W. Mallabar, Darlington. Dessert Apples.—First and second, Mr. H. H. Hilliar, Darlington; third, Mr. J. W. Glaister. Stewing Pears.—First, Mr. W. H. Basley, Darlington; second, Mr. A. Findlay; third, Mr. W. Mallabar. Dessert Pears.—First, Mr. J. W. Lee; second, Mr. J. Smith; third, Mr. A. Nicholson.

Young Gardeners' Domain.

Iris fimbriata.

THIS beautiful plant is not nearly so generally grown as it should be, and as one rarely sees it perfection, even in fairly good gardens, I think a few words on our mode of culture will be acceptable to my young brother gardeners as well as amateurs. After our plants have flowered the old flowering pieces are cut out and the plants receive a little top-dressing of good compost. This will encourage the young growths to move that have formed at the base of the old pieces till they are large enough for potting. This will be about the beginning of June. They may then be shaken out, and the best pieces selected, and placed eight or ten in well-drained 8-inch pots.

The compost should consist of one-half good turfy loam, the other half to consist of horse droppings, leaf mould, burnbake or wood ashes, and sand, with a sprinkling of soot and bonedust. They should then be placed in a pit or frame, kept rather close and shaded, and if the soil is in good working order they will require no water for the first two or three days. In potting, be careful to spread out the roots and ram the soil slightly. When the roots begin to run freely gradually give more air till they will stand full exposure to the sun. Ripening the growth has a lot to do with the flowering of this beautiful plant. I have frequently met with it in greenhouses growing under climbers with foliage fully 3 feet in length but not a single flower, which clearly proves that it must be fully exposed to sun and air to get it perfection. A sprinkling about four o'clock in the afternoon through the summer will greatly assist these plants, closing the frames at the same time to obtain a buoyant atmosphere.

If the plants have been well grown they will show their flower spikes by the second week in November. If these are required for Christmas they may be placed in a gentle heat at first, gradually increasing it till a temperature of 65° is reached. If more heat is given it induces the flower spikes to become weakly and drawn. Water must be carefully applied at this time of the year or the flower spikes will turn yellow; liquid manure will be very beneficial. They must be looked over for scale, and sponged before the flowers begin to open, if any is found. If green fly appear on the spikes they must be fumigated. Then with the lengthening days of spring comes a long and beautiful supply of lovely, delicately tinted, pale blue flowers, which, in my estimation, rival many Orchids; in fact a few plants placed in the Orchid house will harmonise grandly with the many Orchids to be found in bloom at that time of the year. I have counted as many as sixty flowers fully expanded at one time on a plant when grown on this system. The plants are very charming when used in the mansion, and although the individual flowers do not last long they are soon replaced by others.

Ferns in Cottage Windows.

It is very rare that one finds really fine specimens of Maidenhair Ferns in cottage windows that are grown without the aid of any glass structure. I was recently asked to see some Ferns at two cottages, and on inquiring if they were grown in a greenhouse I was rather surprised to receive a reply in the negative. Ferns indeed they were, remarkable plants of the good old *Adiantum cuneatum*, fully 3 feet 6 inches through, with lovely deep green foliage that would do any gardener credit to produce. On inquiring what soil was used I was told they were potted in burnt refuse and a little soil from the Forest of Dean. This clearly shows the value of potash in the cultivation of these beautiful Ferns. Not only was this one variety to the front, but numerous others were handsomely represented, including *A. Pacoti*, the double Maidenhair, so useful for buttonholes; *A. tenerm*, *A. capillus-Veneris*, and *Asplenium bulbiferum*. The growers (Mrs. Langley and Mrs. Taylor) clear off the whole of the fronds and have a fresh start every spring, and fine growth they make after their short rest. These plants when purchased three years ago were in 5-inch

pots. To-day they occupy 8 and 9-inch pots, and may still be seen in the windows at Victoria Street, Cinderwood. The plants are dipped once a week all through their season of growth, enough water being used in tubs to cover the fronds entirely. Great credit is due to these ladies for their perseverance in the cultivation of these beautiful plants without the aid of a greenhouse.—F. J. M.



Fruit Forcing.

Vines.—*Early Forced in Pots.*—The earliest Vines started in November, whether in pots or planted out, will need to have the temperature increased to 60° at night in mild weather, 55° in severe weather, graduating it so as to have it 60° at night when the Vines are coming into leaf, 65° by day in severe weather, and 70° to 75° in mild weather, with a little ventilation daily to insure a change of air. The evaporation troughs need not be charged if there are fermenting materials in the house, but if not the troughs should be filled and kept so with the drainings of the manure yard or stables and cow byres, but not that of piggeries. The liquid, if strong, must be diluted, neat drainings with five times the bulk of water, or employ Peruvian or "ammoniated" guano, 1 lb. to 20 gallons of water, straining before placing in the trough. The liquid is also useful for watering Vines in pots, always applying at the temperature of the house. Tie up the Vines in position as soon as the growth has well commenced, and before the shoots are so long as to be damaged in the process. Sprinkle the house two or three a day in clear weather, avoiding a very close atmosphere on the one hand, and a dry one on the other. Disbudding should not be practised until the fruit shows in the points of the growths. Only supply water at the roots to keep the soil moist, not much watering being needed until the Vines come into leaf.

Earliest Forced Planted-out Vines.—In order to have a supply of ripe Grapes in May of such varieties as Black Hamburgh and Buckland Sweetwater the Vines must be started at the beginning of December. A good start is favoured by a bed of fermenting materials, such as sweetened stable litter and leaves placed on the floor of the house and turned daily. The outside border should have the needful protection from cold rains, snow, and frost; a covering of bracken or leaves with litter on top, so as to throw off rain, will be considerably warmer than exposed, and in their case covering with fermenting material may be dispensed with, but a covering of fresh leaves so as to raise gentle warmth is preferable, especially to those entirely outside. The inside border should be brought into a moist condition by applying water, or in the case of weakly Vines liquid manure. Avoid making the soil sodden by needless waterings, as Vines require only moderate root moisture until they start into growth. Start with a night temperature of 50° in severe weather, 55° in mild weather, and 65° by day, except the weather be severe, when 55° will suffice, not exceeding these until growth commences. Maintain a genial atmosphere by syringing occasionally, but avoid excessive moisture, as it excites the emission of aerial roots for the rods. Depress the canes of young Vines to the horizontal line or below it to insure the regular breaking of the buds.

Early Muscats.—No Grapes pay so well when properly grown as very late or early Muscats. Black Muscat, or Muscat Hamburgh, may be forced so as to ripen at the end of April, and the quality is first-rate, but it is such a bad setter as to be very unsatisfactory. Madresfield Court is just the opposite, setting freely, or may be made so by careful fertilisation, either with its own or pollen from another variety. It also finishes well, being as good in that respect as Black Muscat is the contrary way for producing red and shanked berries. There is no difficulty in having it ripe in May, and is the better for an inside border and a house to itself, as it requires less water at the roots and in the atmosphere when ripening. Muscat of Alexandria, however, is still the best variety for forcing to ripen the fruit in May or early in June, and to effect this must be started without further delay. For this purpose the roots must be confined to the inside borders, the soil of which should be brought into a proper state of moisture by watering with tepid water.

Nutrition has a good influence on the presence and activity of roots, phosphates promoting their emission, as also does liquid manure, which may be supplied, but not to make the soil cold and wet. Commence with a temperature of 50° to 55° at night, 60° to 65° by day, and 10° to 15° rise from sun heat, sprinkling the Vines in the morning and early afternoon, damping the paths, walls, and borders in preference to keeping the Vines constantly dripping with water. Young Vines that have not been forced early will require bending down to a horizontal position to insure even breaking down to the base, but old Vines may remain tied to the trellis, and will usually break freely.

Midseason Vineries.—Vines in midseason houses from which the Grapes have been cut should be pruned, not delaying this after the

leaves are all down. Any Grapes still hanging may be cut, placed in bottles of clear rain water with a piece of charcoal in each. The Grapes often keep better that way than on the Vines, as the temperature of a room from which frost is excluded is more equable, and there is less danger of damping, than can be commanded in a vinery. Keeping Grapes hanging after they are matured and the leaves fallen may not prejudicially affect the Vines, unless prolonged to a late period, but there is a sort of preparation for a future growth going on in the buds, as the sap is more or less in circulation, or properly diffusion, and there is a certain amount of waste, which cannot take place when the Vines are pruned, as the matter is then concentrated in the buds left. Prune, therefore, directly or shortly after the leaves are fallen, cut any thin-skinned Grapes, as they do not require the maturing so necessary for such varieties as Gros Colman and late thick-skinned varieties generally.

In pruning adhere to the practice that has proved satisfactory. If the Vines are in good condition they will give sufficiently large bunches if pruned to a couple of buds, good useful Grapes, large in berry, and perfect in finish, so essential for marketing or keeping the table supplied with fresh fruit daily. But if larger bunches are required, or the Vines from weakness or other causes do not afford them so large as desired, leave more growth, only be careful to select sound, round, well developed buds on firm, well ripened wood. Large bunches, especially on early forced Vines, are indifferent in setting, uneven in swelling the berries and defective in finish; aim, therefore, at medium sized bunches, and fine berries properly finished. Vines that afforded well perfected examples when pruned to one bud will give a larger bunch and of equal finish from the second bud; but the wood and buds of Vines are greatly influenced in fruitfulness, and the character of the produce by the soil.

The Kitchen Garden.

Forcing Asparagus.—No vegetable is more easily forced than Asparagus. Breaking up an old bed every winter is a simple matter, but it entails forming a new bed every spring, or otherwise there will soon be a breakdown in the supply. A gentle moist heat, such as that generated by a hotbed formed of leaves, or leaves and stable manure, answers well, and is desirable whether the forcing takes place in either a heated pit or a frame over a bed. Cover the hotbed with a layer of short manure or rich soil, and when it is certain that overheating of manure is not likely to take place introduce the Asparagus plants. These should have been newly and carefully lifted, and they may be packed somewhat closely together on the bed, spreading out the roots and covering with 4 inches of fine rich soil. A strong top heat is undesirable. From 55° to 60° is ample, and this means that fire heat is not much required. Cover unheated frames heavily, and the pits also should be covered with mats most of the time. Keep the soil steadily moist and force out every shoot from the plants before throwing them away.

Forcing Seakale.—Seakale may be forced where it is grown by means of hotbeds of manure or manure and leaves, taking the precaution to cover the crowns with Seakale pots inverted over them before banking with heating material. Enough of the latter should be used to keep up a fairly brisk heat, but trial stakes thrust into the bed ought not when drawn out and the heated portion grasped in the hand to feel uncomfortably hot. The plan of forcing more often followed is that of lifting strong sound plants, placing these, after slightly shortening the roots, thickly in deep boxes or large pots of rich soil, the forcing taking place in a well-heated house. Only well blanched tops are acceptable, and it follows that either a dark position must be selected for the pots or boxes of plants, or some means of wholly excluding light from them must be adopted.

Protecting Seakale.—The Lily White form of Seakale is not so hardy as the old purple-tipped variety, and is liable to be killed if unprotected during the prevalence of a severe frost. The best way out of the difficulty is to lift all the plants required for forcing as previously advised, while any to be saved for producing late dishes should be either moulded over or have a ridge of soil placed over the crowns at once.

Forcing Rhubarb.—Much that was advanced concerning forcing Seakale in the open also applies to Rhubarb. In this instance large extra deep pots or tubs with movable lids should be inverted over them. Abundance of stalks can, however, be most quickly obtained by lifting strong roots of early varieties and placing these in a brisk heat, covering with rich soil, and keeping this moist. The most delicately flavoured stalks are grown in the dark. More clumps to afford a successional supply of stalks may be placed in a Mushroom house.

Endive.—Fully grown plants of Endive are liable to be seriously damaged by frost, and smaller plants are also safer under cover of a glazed frame. If the stronger plants are tied up before moving with a ball of soil about the roots, and packed closely together either in a pit, frame, or on the floor of a vinery at rest, a portion may be left tied up to blanch, and the others be dealt with according to requirements. Endive blanches perfectly in a Mushroom house, but only a few dozen full grown plants should be introduced at a time, as it does not keep well after being blanched under such conditions.

Chicory.—Strong roots of Chicory packed somewhat closely in deep pots or boxes of rich soil, and placed in a Mushroom house or other dark moderately warm quarters, quickly produce abundance of strong well blanched leaves, which are usually appreciated in winter salads.

THE BEE-KEEPER.

Requisites for Bee-keepers.

WHEN a beginner has decided upon the kind of hive most likely to suit his purpose it will be necessary for him to select a few necessary things. The aim of the bee-keeper should be to disturb the bees as little as possible, and never to handle them unless there is a special reason for doing so. With a little practice the most timid bee-keeper will learn to handle bees without gloves. It is, however, wise to protect the face at all times with a veil, which should be made of black net. If a piece of elastic is run round at one end it will fit over the hat, and may be carried in the pocket when not in use.

A smoker, too, is a necessity, and the Bingham is admirable. We prefer those made with a guard over the funnel. A smoker of this description is not particular as to the kind of fuel used. Brown paper, cotton rags, corduroy, or old sacking answer the purpose admirably.

A pair of knives for uncapping should be obtained; those made specially for the purpose have bevelled edges, but any old table knife may be used if the apiary is only a small one. It is an advantage to have a pair, as one is being warmed in hot water whilst the other is used. A box made of strong tin should be provided for carrying the frames when full of honey, or at any other necessary time. The box ought to be made the same length and depth as the standard frame, projections being left at each end for the frames to hang on. They will then be in the same position they occupied in the hive. One holding eight frames will be quite large enough; a handle should be placed on the top so that it may be easily carried. A good extractor is one of the most expensive, but at the same time most useful adjuncts to the apiary. There is no comparison between a first-class cylinder extractor with cap gearing and a cheap machine such as the Little Wonder. An extractor as above should take two combs in standard-sized frames, and have swinging reversible cages. They are made of strong block tin, and are about 2 feet high and 16 inches across. An extractor of this description will hold 80 lbs. of honey under the cages before it will be necessary to run it off, which is done through a treacle valve at the bottom of the machine. Such a machine will cost about 2 guineas. The above appliances are all the practical bee-keeper will require to make a start.—AN ENGLISH BEE-KEEPER.



* All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Naming Apple from Description (J. D.).—The data accords with Duchess of Oldenburg, which comes into use during August, being large, flesh yellowish white, crisp and juicy. It forms a medium sized pyramid and a good standard. The best very early Apple is probably Early Harvest, with fruit of medium size, the tree being a healthy and free grower. It bears well as a standard and forms a large pyramid. The fruit is in use early in August.

Liquid Manure for Cyclamens (Idem).—The best liquid for Cyclamens is that formed of cow manure, 1 peck to 20 gallons of water, the manure being fresh, and placed in bag, then pouring on the water and stirring a few times daily for two or three days before use. The clear liquid only should be applied. Soot water is also excellent, it being treated similarly to the cow manure, but only half a peck used to the quantity of water named, and the liquid should be used clear, and preferably not for four days or a week. Nitrate of soda is too stimulating, though it may be applied at the rate of a quarter of an ounce to a gallon of water to begin with, doubling the quantity by degrees. It should only be given occasionally. The leaves of Cyclamens are often deformed by the attacks of a mite-like creature, which causes the leaves to have a rusted appearance. It is best discomfited by tobacco water applied to the under side of the leaves.

"Book of the Rose" (Chester).—We are obliged to you for pointing out the clerical error on page 432. The price of Mr. Foster-Melliar's "Book of the Rose" is 8s. 6d., and not 5s., as stated. The reply was given to "H. H.," who will probably read this also.

Insect to Name (W. F. G.).—The insect was much crushed, it being beyond identification, but appears one of the Heteroptera or plant bugs, probably *Lygus solani*, which infests many plants besides the Potato, and a closely allied species is found on Hops. It is in the mature or perfect state, and both in that and larval stage more or less preying on plants by means of their suckers. The eggs evidently are those of the insect.

Manure for Mushroom from Stables where Horses are Given Drugs (C. L., Co. Dublin).—There is no reason why cod liver oil given to horses should injuriously affect the manure, nor the salts given as a purgative. We presume the articles are only given in an ordinary way, and the manure not from places where horses are subjected to much doctoring. If from ordinary stables we consider there is no objection, we having used the material of similar nature for a great number of years with satisfactory results.

Cow Manure for Mushroom Bed (J. W. Knight).—The manure is best from cows that are fed on hay and other hard food similar to horses. The manure from animals fed on Mangolds, Turnips, oilcake, hay, and sometimes Cabbage, is generally too soft and cold, soon becoming too close and spent for the growth of Mushrooms. Though not containing any deleterious substance, we should not advise such manure unless containing a considerable amount of littery material, such as straw, for Mushroom beds.

Gas Lime Mixed with Soil for Grass Land (Gardener).—The compost formed of gas lime and soil laying for a year is a valuable dressing for land under grass. The quantity of pure lime (you do not say whether gas lime or ordinary lime) advisable ranges from 3 to 5 tons per acre of gas lime, it being composted with about five times the bulk of soil. The gas lime chiefly consists of gypsum or sulphate of lime. Ordinary lime is applied at a similar rate on land not very rough, but where the herbage is coarse from 6 to 10 tons are frequently supplied. It chiefly is composed of lime, which acts on old herbage and moss, and reduces the matter to a *débris* of considerable value as a fertiliser, besides improving the quality of the grass, and of course hay.

Brown Spots on Marechal Niel Rose (Anxious).—There sometimes arise patches of dead bark on the stems through the cause you name—that of laying on the trellis or being in contact with it—the remedy for which is to paint the wires with white lead paint, one coat sufficing to stop the galvanic action and injurious effects of the zinc on bark. We do not know of any other cause, though brown patches sometimes occur on the bark, and are due to fungus, *Peronospora sparsa*. The best preventive of this pest is free ventilation, and dusting occasionally with a fungicide in powder containing sulphate of copper, such as anti-blight. The trees do not flower better if fed well at the roots during the winter, as the flowering depends on the maturity of the wood in the previous season, though the flowers are assisted in developing by applications of liquid manure in the spring or top-dressing of fertiliser some time in advance of growth taking place. An application of rather strong liquid manure from stables and cow-houses, applied during winter, has a good effect, but not making the soil sodden and sour.

Destroying White Fly on Tomatoes (Idem).—The best remedy for this pest is flowers of sulphur, the hot-water pipes being heated to 170° and over, but not to boiling point, and then thinly coating them with a cream formed of skim milk and flowers of sulphur. The house should be kept close, and after being thus sulphur fumed for about an hour, the pipes may be allowed to cool and the house fall to its ordinary temperature. The sulphur may remain on the hot-water pipes, and they should be heated twice as before at intervals of four or five days. It generally suffices to keep this pest in subjection to have a little sulphur on the hot-water pipes constantly, the fumes given off in the ordinary way of heating being fatal to it, and also a good preventive of fungoid diseases.

Millipedes in Vinery (J. R.).—The insects (Myriapods) were all dead when received, showing that even these pests cannot long survive without food in the larval state. That is a great point in the treatment of plant infestation by insects, and is one reason why lime is beneficial in such cases, for it acts by converting the organic matter on which they mainly subsist into plant food, whilst rendering it less available as food for their enemies, besides injuring the pests. The best thing to do is to remove the manure, and let fowls have an opportunity of scratching it over. If that is not practicable you may proceed as you propose, using a peck of freshly slaked lime per rod, sprinkling it evenly on the surface, at once scratching the border over with a fork. This will kill most of the larvæ, and if there be many "prowlers" left to follow the next day with a similar quantity of soot, which should be pointed in lightly. Perhaps more fatal to the millipedes, but might possibly be too forcing for the Vines (this depending on circumstances), would be 1½ lb. of powdered nitrate of soda per rod, leaving it on the surface. The larger insect is *Julus terrestris*, and the smaller ones larvæ of that species.

Flowers and Seeds (A. G.).—The essential parts of a flower are the stamens and pistil, and without these seed cannot be produced. The term "flower" includes both calyx and corolla, which are not essential to seed production, though they are present in a very large number of flowers, and serve both as protection to the more delicate essential organs, and as a means of attraction to insects. Seed, however, is often produced without calyx or corolla being present, and some might, therefore, erroneously think there was no flower. Some flowers, termed cleistogamous, also produce seed without expanding, as in some of the *Viola* family, and when these pods are observed it might be thought they had been produced without flowers. Without ovules to be fertilised by pollen, through the medium of stigma and style, or without their aid (as in the *Conifer* family), it is impossible to produce seed.

The Chrysanthemum Fly (C. P.).—The leaf-mining insect that attacks *Marguerites* is the same that attacks, happily much less persistently, *Chinese Chrysanthemums*, and if it is not identical with is closely allied to the *Celery fly* (*Tephritis*). The flies puncture the leaves, depositing eggs which hatch, and the larvæ eat their way through the interior of the leaves and destroy them. The fly may be prevented attacking *Celery* by syringing the plants with a solution of softsoap and petroleum in the evening, not in the morning, as if hot sun follows when the leaves are wet they may be scorched. We have known this to destroy the maggots in the leaves, but their prevention is infinitely to be preferred. We know of no other way of preventing the insects attacking *Marguerites*. All the worst leaves should be gathered and burned. Two ounces of softsoap and a lump of soda the size of a nutmeg dissolved in a gallon of soft boiling water, stirring in very briskly while hot half a wineglassful of petroleum, such as is burned in lamps, are safe proportions to use.

Disqualifying Apple (J. L., Worcester).—The Apples you have sent are distinct, not only externally, as is apparent, but also in the internal characters, and therefore the disqualification was wrong. It may possibly have arisen from the late distinguished author of the "Fruit Manual" placing "King of the Pippins" as a synonym of "Golden Winter Pearmain." This is no doubt correct. The typical form of this Apple is abrupt Pearmain shaped. Your specimen (the coloured fruit) is exactly typical, and therefore the true Golden Winter Pearmain. We have gathered hundreds like it, with others somewhat elongated from the same tree. The clear yellow conical Apple is not that variety. It is not easy to determine from a solitary specimen whether it is the Golden Pearmain (syn. English Golden Pearmain, Ruckman's Pearmain) or Franklin's Golden Pippin. It is one or the other. The specimen answers the more closely to the last named, but if several of the fruits have a fleshy protuberance at the base (the one before us has not) the variety may be the former. If the whole of the fruits are like the sample it is Franklin's Golden Pippin. In any case it is not Golden Winter Pearmain or its synonym King of the Pippins, and we certainly should not have disqualified the collection on the ground stated. We have more than once seen all the above-named Apples under examination together by Dr. Hogg, and know quite well that his decision would have been that now given.

Names of Fruits.—Notice.—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (F. K. D.).—1, Beurré Diel; 2, Gansel's Bergamot; 3, more nearly resembles Beurré Capiaumont than any variety with which we are familiar; the fruits were too far gone for testing. (H. M. R.).—1, Grenadier; 2, Bramley's Seedling; 3, New Hawthornden; 4, Roundway Magnum Bonum. (D. P. P.).—1, Warner's King; 2, Queen Caroline; 3, Annie Elizabeth; 4, Catshead; 5, Round Winter Nonesuch; 6, Newton Wonder. (R. M. W.).—We remember the specimen you sent last season, and certainly should not have considered that and the present one identical. As we have said before, it is exceedingly difficult to speak definitely from one fruit only. If the tree is a young one we should say it is Barnack Beauty, raised by the late Mr. Gilbert of Buileigh. (S. D.).—1, St. Lawrence; 2, Wealthy; 3, one fruit rotten and the other partially gone, resembles Marie Louise.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (N. C. C.).—1, *Davallia canariensis*; 2, *D. Mooreana*; 3, *Impatiens Hawkeri*; 4, *Justicia carnea*; 5, *Adiantum pedatum*; 6, *Todea pellucida*. (A. G. G.).—1, *Cupressus glauca*; 2, *Thuopsis dolabrata*; 3, *Dracæna Lindenii*; 4, *Aloysia citriodora*; 5, *Pteris longifolia*; 6, *Adiantum pubescens*. (R. H. S.).—1, *Eranthemum pulchellum*; 2, *Gymnogramma chryso-phylla*; 3, *Asplenium viviparum*; 4, *Tradescantia zebrina*.

Covent Garden Market.—December 5th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.
Apples, table, $\frac{1}{2}$ bush. ...	2	0 to 4	6	Oranges, case	6 0 to 15 0
„ cooking, bush. ...	1	6	5 0	Peaches, doz. good size ...	6 0 9 0
„ Californian, case	7	6	9 6	Pears, crate	3 0 7 0
Chestnuts, bag, from ...	5	0	15 0	„ stewing, case of	
Cobnuts, doz. lb., best ...	4	0	5 0	„ 72 to 120	4 6 6 6
Grapes, black	0	6	2 6	„ Californian, case	24 0 0 0
„ white	1	6	3 0	„ $\frac{1}{2}$ case	12 0 14 0
Lemons, case	9	0	16 0	Pines, St. Michael's, each	3 0 6 0
Melons, house, each ...	0	6	2 6	Walnuts, bag	4 6 6 0

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.				
Artichokes, green, doz. ...	3	0 to 4	0	Mushrooms, forced, lb. ...	1	0 to 0	0		
„ Jerusalem, sieve	2	0	0	0	Mustard and Cress, pint.	0	2	0	0
Asparagus (Sprue Grass)	0	8	0	0	Onions, Dutch, bag ...	4	0	4	6
„ Paris Green ...	5	6	6	6	„ English, cwt. ...	5	0	0	0
Beans, French, per lb. ...	0	4	0	6	Parsley, doz. bnchs. ...	2	0	0	0
„ Jersey, per lb. ...	1	3	0	0	Potatoes, cwt.	3	0	7	0
Beet, red, doz.	0	6	0	0	Rhubarb, doz.	4	0	6	0
Brussels Sprouts, sieve...	1	0	1	6	Savoy, tally	2	0	3	0
Cabbages, tally	3	0	5	0	Scotch Kale, bushel ...	0	6	1	0
Carrots, doz. bnch....	2	0	3	0	Seakale, best, doz.	12	0	15	0
Cauliflowers, doz.	1	0	2	0	„ 2nd, doz.	6	0	8	0
Celery, bundle	1	0	0	0	Shallots, lb.	0	2	0	3
Cucumbers, doz.	1	6	3	0	Spinach, bush.	1	0	1	6
Endive, score	1	6	0	0	Tomatoes, English, lb. ...	0	2	0	5
Herbs, bunch	0	2	0	0	Turnips, doz.	2	0	3	0
Leeks, bunch	0	1	1	0	Turnip tops	0	9	1	0
Lettuce, doz. French ...	0	9	1	0					

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch	1 6	to 2 6	Lily of the Valley, 12 bun.	6 0	to 15 0
Carnations, 12 blooms ...	1 0	3 0	Maidenhair Fern, dozen		
Cattleyas, doz....	6 0	12 0	bunches ...	4 0	8 0
Chrysanthemums, dozen			Marguerites, doz. bnchs.	2 0	4 0
blooms ...	1 0	3 0	„ Yellow, doz. bnchs.	2 0	4 0
Eucharis, doz. ...	1 6	2 0	Odontoglossums ...	3 0	4 0
Gardenias, doz. ...	1 0	2 0	Roses (indoor), doz. ...	2 0	4 0
Geranium, scarlet, doz.			„ Red, doz. ...	1 0	2 0
bunches ...	6 0	9 0	„ Safrano, doz. ...	1 6	2 0
Lilac, white, bunch, ...	4 0	6 0	„ Tea, white, doz. ...	1 0	3 0
Lilium lancifolium album	1 6	2 6	„ Yellow, doz. (Perles)	2 0	4 0
„ rubrum	1 6	2 6	Smilax, bunch ...	2 0	4 0
„ various ...	2 0	3 0			

Average Wholesale Prices.—Plants in Pots

	s. d.	s. d.		s. d.	s. d.
Acers, doz.	12	0 to 24	0	Foliage plants, var., each	1 0 to 5 0
Arbor Vita, var., doz. ...	6	0	36 0	Geraniums, scarlet, doz.	6 0 10 0
Aspidistra, doz.	18	0	36 0	" pink, doz. ...	8 0 10 0
Aspidistra, specimen ...	15	0	20 0	Hydrangeas, white, each	2 6 5 0
Azaleas, various, each ...	2	6	5 0	" pink, doz.	12 0 15 6
Boronias, doz.	20	0	24 0	" paniculata, each	1 0 3 0
Cannas, doz.	18	0	0 0	Lilium Harrisii, doz. ...	8 0 18 0
Crotons, doz.	18	0	30 0	Lycopodiums, doz.	3 0 6 0
Dracæna, var., doz.	12	0	30 0	Marguerite Daisy, doz. ...	8 0 10 0
Dracæna, viridis, doz. ...	9	0	18 0	Mignonette, doz.	8 0 12 0
Erica, various, doz.	8	0	18 0	Myrtles, doz.	6 0 9 0
Euonymus, var., doz.	6	0	18 0	Palms, in var., each ...	1 0 15 0
Evergreens, var., doz. ...	4	0	18 0	" specimens	21 0 63 0
Ferns, var., doz.	4	0	18 0	Roses, doz.	6 0 18 0
" small, 100	4	0	8 0	Stocks, doz.	8 0 12 0
Ficus elastica, each ...	1	6	7 6		



The Winter Egg,

Or rather, perhaps we may say the lack of it. Each season brings its own particular crop of topics, and the topics are three-hed out year after year with admirable regularity. We wish we could say with admirable result; but, oh! so often the result is nil. We try to do the impossible. Every now and then some prophet arises and tells of the great things he achieves; the prophet and his work pass, and we are little if any better. We have got into the way of expecting the lower creation to minister to our wants in season and out of season, and we feel aggrieved if we cannot get every little luxury just when we want it. By "we," please understand the general middle-class public—the people of moderate means, not the wealthy, who of course can get every delicacy in and out of season.

This is not the place to discuss the advisability of indulgence in high living, but we must say that every year adds to the ranks of those who expect to live far more bountifully than did ever their forbears. Now, stop! we hear voices in the distance, "But eggs are a real necessity; they should not be classed as luxuries." Wait a minute. We quite agree that they are a splendid food, and one without which the housekeeper is at a sad loss; but the season of plentiful eggs is spring and early summer, that everyone will allow. We have not arrived at cheap lamb at Christmas, nor should we look for new Peas and Potatoes in January. True, they are to be got, but only by those who have large means. There is no outcry about such things; we (the general public) are content to enjoy them in their season; but we do seem to expect impossibilities of our hens.

We suppose a hen in a state of nature would only lay a very few eggs—sufficient for reproductive purposes. We have so got her into our way of thinking that she will do far more for us; she gives us a good return for the shelter and food we provide. But being after all only a hen, not an egg machine, she must have a close time, and we grudge her that close time. We cannot ourselves see how it will ever be possible to have cheap eggs (fresh) during the late autumn and winter months. We do not say the supply cannot be increased, we think it can, and that materially; but still we shall never have a popular price at this time of year. We have read recipe after recipe (and tried some) for the preservation of eggs when cheap and plentiful, and though with care some of the recipes work out well, still the eggs can hardly be classed as fresh, though sound. They may be good for cooking purposes, but they are unsatisfactory boiled.

It was only the other day that we came across the "Journal of Agriculture" for Western Australia, and among other useful and valuable facts we found a note on the cold storage of eggs. Now this seems to be something that we want here in the old country. It is heartbreaking work to sell beautiful fresh eggs, as we have often done, at eighteen and twenty for 1s.; but if, as the writer says, this cold storage answers well in Perth, W.A., we cannot see why it should not answer here. The refrigerating works are run by Government, and the charges made are very small.

It must be thoroughly understood that eggs not perfectly fresh, or eggs packed in musty cases, will not, even in a refrigerator, come out in good condition. It will not do to gather eggs haphazard, pack them anyhow, and send any time. The sooner they are sent off the better, and eggs for this purpose are better infertile. We are not aiming at fraud, and eggs so treated must be labelled and sold as refrigerated.

We have the frozen meat, and divers other things; why not use cold as egg preservative? We know the arguments about the delicacy of the eggs; but out of every hundred sold what percentage is perfectly fresh? What percentage has been exposed to undesirable conditions? We must be asked something easier. We only know this, that in an ordinary country market we should get rich if we could have a farthing for every egg sold that was over six days old. We were very much struck the other day by a letter from Mr. E. Brown, the poultry expert. He is a man always on the alert to see and hear things appertaining to his particular branch, and of him (in a poultry sense), as it was of a noted Oxford professor, what he does not know is not worth knowing. It has come to his knowledge that the winter egg market is a great deal demoralised. The producer has got a little way of "holding," and he will hold from September till prices are high in late November or early December. This is not nice news for the consumer, who is paying what ought to be fresh egg price. The shopkeeper is hardly to blame, and we suppose it would be difficult to awaken in the producer any feeling of remorse.

There are forms of adulteration, too, going on. It seems hardly possible to adulterate an egg, but an egg box can be manipulated. Foreign eggs into Irish boxes, French eggs transferred into English hampers, Irish eggs lie cheek by jowl with Canadians, and the Dane does not disdain a Russian. This is almost as bad as the wooden nutmegs of the Dutch.

Every poultry breeder may have winter eggs, but he will not achieve this desirable end unless he takes to newer systems. It will not do to have a yard stocked with old favourite hens. We must look to the rising generation, and the pullets of March should now be entering on their duties, the chief of which is egg laying; but even the pullets of March will not lay unless suitably treated. We go over old ground we know. There must be the hot breakfast, meal of some sort (bar maize); household scraps, green garden stuff mid-day; and good sound grain for bedtime. The grain must be varied, and only maize given in the bitterest weather. A bone is a dainty, and serves also to prevent ennui. Without exercise fowls never do so well, without the daily bath of dust, without the comfortable airy perch. The more run they can have the better, and a fine thing is a good fat worm. Not only is it "meat," but it contains a certain amount of grit. And that brings us to another point. Without teeth all meat is useless. Grit, grit, grit. The natural grit is soon exhausted, flint chips, broken china, broken crockery.

The second item is, we fear, generally to be found in every household. It is not lost that a friend gets, and so that cherished cup or plate may be useful even in death if carefully broken up into small pieces and given to the fowls. For fear of one's eyes during the breaking process a bee veil is a fine thing, and a flat iron is a capital tool. Anything sharp and plenty of it. Do not fear the fowls will not take it. Get it ready, and you will soon see how eagerly it is picked up. It is quite as possible to overfeed as to underfeed. Fat is not needed, only a good healthy condition. And it is also a fact that a great deal of corn is given birds that is not worthy of the name. Rubbish is never cheap. Better keep fewer fowls and do them well as many and neglect them.

Work on the Home Farm.

Wheat is coming up very slowly, though frost has been so conspicuous by its absence, and everything apparently favourable to rapid germination. We imagine that the soil is really colder than we supposed, as the seed sown was quite up to the average in germinating qualities. It will be advisable that drilling be suspended until February. Seed put in now will have little chance of making much headway until the days begin to lengthen again, and for very light soils, especially where rabbits are a source of trouble, February sowings have a distinct advantage.

Ploughing goes well, but the land has not dried much, and carts loaded with Turnips and Swedes cut deeply into the soil. The land from which Swedes have been drawn must be ploughed at once if it can be done in a workmanlike manner. The tops if ploughed in will be as valuable as manure as they would have been as a bite for the ewes, and we can spare the bit of keeping this year.

Beef markets keep very firm, as supplies are coming in sparingly. Farmers are in a very different position this year to that they were in last, and having plenty of roots are inclined to keep their cattle well up to Christmas. We do not think it is because they are backward, but there may be something in the idea that good feeding cattle are scarce, especially strong old beasts, and we fancy that butchers who like to kill cattle of the show type for Christmas will have to pay well for them. Cakes at any rate keep their price well, so the farmer is justified in holding for a profitable return.

Users of basic slag will be well advised to be getting it applied to the land at once, and for two good reasons. First, it will be much more likely to benefit next year's crop if sown now; second, the work may now conveniently be done. The slag may be sown with a broadcast drill or by hand, or it may be drilled with an ordinary drill with the coulters up. We may here remark that basic slag may be sown by hand without injurious effect to the sower if it be well damped. An ordinary watering can with a fine rose is all that is required, and the slag must be watered, turned, and watered again until it is wet enough to sow without hanging in the air, to the injury of the sower. Where slag is to be used for grass by all means put it on now. If Cabbages have been planted this autumn and hares are numerous, a good dressing of soot, say 5 or 6 cwt. per acre, will do much to protect the young plants, and will return its full value as a manure. Soot is not a manure which is strongly recommended by scientists, but it is highly valued by many practical farmers. Care must be taken to get good domestic soot, as that from mill chimneys is often of very little value, having a considerable proportion of brickdust and other rubbish in its composition.

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Journal of Horticulture.

THURSDAY, DECEMBER 13, 1900.

London Parks.

A Caledonian Critique.

WE had heard so much, and read more, regarding the many wonderful things relating to horticulture and floriculture which were to be seen in and around London, that it was with undisguised pleasure that we accepted the generous offer of a kind employer to spend a week's holiday in the metropolis. We would here express our deep gratitude for, and sincere appreciation of, the thoughtful kindness and generous aid that enabled us to spend so pleasant and so profitable a week under so congenial circumstances. Many employers might follow this good example, and we have no hesitation in saying the results would be mutually beneficial, as it is by such considerate acts that the bond of unity between employer and employed is firmly knit.

Leaving the "Fair City of Perth" late one beautiful balmy evening in August by express East Coast train, we arrived early on the following morning at King's Cross, whence we drove to the hotel in which our room had been previously secured (another considerate act of our employer, who, by the way, resides in the metropolis). After the necessary preliminaries had duly been gone through, sight-seeing at once commenced in real earnest. It is not our intention in these notes to enter into anything like a full account of the many wonderful sights we saw during those seven busy days, but will chiefly confine ourselves to what struck us more particularly from a gardener's point of view.

The public parks, with their beautiful summer bedding, had for us a peculiarly fascinating attraction, consequently we determined to visit several of these and thus look with our own eyes upon the beauties that had been so often and so graphically pictured to us by others.

The gardens at the Victoria Embankment were the first to be visited. Taking a cursory glance around us we were immediately struck

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CATALOGUES ON APPLICATION.

with the aspect of neatness and tidiness that prevailed everywhere; more especially was this observable in relation to several carpet beds which we noticed, each and all of them showing unmistakeable indication of the patient care and skilful manipulation bestowed upon them. There was, however, despite all this neatness, a lack of brightness in colour both in foliage and flower, the sombre appearance no doubt being due to the close proximity of these gardens to the river and railway with their ever-present smoke and dirt. Violas, Stocks, Calceolarias, and Antirrhinums did not seem happy in the murky atmosphere, and were miserable examples compared with those in our clear bracing Scottish air. Our first impression of London gardening, therefore, was, as we saw it on the Victoria Embankment, not at all calculated to fill us with unqualified admiration.

Hyde Park.

Next day we wended our way through the busy streets towards Hyde Park, where we were led to expect better things; nor were we disappointed. On entering this beautiful park we were at once struck with its huge dimensions, and thought what a priceless boon it must be to the thousands who spend their days and years in the brick and mortar wilderness which surrounds it on every hand. How invigorating and refreshing it must be to the jaded, weary, city toiler to spend an hour at leisure away from the cares and worries of the office and store amidst the bright foliage and brighter flowers of this charming park. On entering we were at once attracted by a bed of *Chrysanthemum Precocité*, which was very bright and effective, its rich golden yellow colour readily catching the eye. This method of massing one colour in one bed has many points to recommend it, especially in large public parks similar to the one under notice. Another bed of quite a different type from the foregoing, although not at its best at the time we saw it, promised to be very attractive; this was planted with *Celosias* and *Lilium lancifolium rubrum*, the combination having a very pretty effect. Further on we came across several beds filled with tuberous rooted *Begonias*, with dot plants of *Grevillea robusta* and *Acacia lophantha*, which were decidedly disappointing; the *Begonias* were not at all up to the mark, while the *Grevilleas* and *Acacias* were planted with so much geometric exactness as to make the general aspect stiff and ungraceful.

Very free and beautiful, however, were some beds of white *Fuchsias* and blue *Plumbagos*, with a groundwork of East Lothian Stocks, crimson; and the same remark applies to a couple of beds adjoining, which were thinly planted with *Salpiglossis* on a base of blue *Lobelia*. Zonal *Pelargoniums*, or, as we call them in the north, "Geraniums," were very much in evidence, and there can be little said against them as useful summer bedding plants. As seen in Hyde Park they were very floriferous, and the colours bright and effective, their only drawback in our estimation being a certain flatness about the beds, which would easily have been remedied by the addition of some taller-growing plants, such as Variegated Maize, dwarf Bamboos, or similar graceful feathery plants. We have seen hardy Ferns, such as *Lastreas* and *Athyriums*, used in combination with "Geraniums" with highly satisfactory results. Specimen flowering plants, such as *Hydrangeas*, Ivy-leaved *Pelargoniums*, *Plumbago capensis* and *Bougainvillea glabra*, were used with considerable effect in various sheltered nooks, and this style of decoration when judiciously employed gives a tone to the surroundings which is by no means to be despised. In one or two instances, however, we felt they were a little out of place, scarcely harmonising with their surroundings.

Parliament Square.

Strolling round the precincts of the Parliament Houses one afternoon, admiring the beautiful architecture, we were much struck with the quantity of *Castor Oil* plants and *Eucalyptus* which were in evidence everywhere—in fact, we began to wonder if they had any connection with British politics, or if the man in charge was a practical joker, as the two plants in their particular environment seemed peculiarly suggestive.

Finsbury Park.

On Saturday afternoon we journeyed to the northern suburbs, and there enjoyed the kind hospitality of our generous employer, who with considerate kindness conducted us over a couple of private establishments in the vicinity of his suburban home, pointing out features of especial interest. Thereafter we spent a pleasant hour together admiring the beauties of Finsbury Park. Occupying as it

does a more elevated and airier position than the parks we had already visited, we observed vegetation here looked brighter and healthier generally than any we had previously seen. Prominent amongst other things we noticed a bed of *Begonia semperflorens* flowering most profusely, the bright rosy blossoms and metallic foliage being exceedingly pretty. Beds of perennial *Phloxes*, red and white, made a brilliant display, but *Cannas* were anything but a success, flowering very sparsely. Here we noticed several beds edged with *Koniga maritima compacta*, and we could not fail to observe how well adapted this neat, dwarf-growing plant was for this purpose.

Regent's Park.

In Regent's Park we were delighted with some huge clumps of single *Hollyhocks* which made a very effective display; the plants were freely branched, not more than 5 feet in height, and were flowering with wonderful profusion. Beds of *Begonia Corbeille de Feu*, in combination with Harrison's Musk, formed as pretty objects as anything we saw in this style. A large triangular bed just at the junction of two broad walks was filled with a variety of specimen flowering and foliage plants, and had a characteristic beauty peculiarly its own. The most prominent plants in this bed were various *Palms*, *Acalyphas*, *Liliums*, *Celosias*, *Hydrangeas*, and *Cannas*, the combination having a tropical effect which was exceedingly pleasing, and a decided change from the style of hedding generally adopted.

Zoological Gardens.

Within the Zoological Gardens we noticed many plants growing freely in the open borders which are generally accorded a place under glass in our northern latitude. Such plants as *Asparagus plumosus*, *Acalypha musaica*, *Strobilanthes Dyerianus*, and *Pilea muscosa*, seemed to be thriving beautifully, and not much wonder, if the day we spent there was anything like a good sample of what is generally experienced, the heat being intense at the time of our visit. *Celosias* were excellent here, and we were delighted with some beds we saw as we entered, but at every turn we were met with fresh beds filled with *Celosias*, until at last they began to get tiresome by reason of their superabundance, thus once more verifying the truth of the old saying that we can have too much of a good thing.

The Crystal Palace and Kew Gardens.

The Crystal Palace and Kew Gardens were also visited, and at the latter place we saw the best beds of tuberous-rooted *Begonias* that we had seen in the south; still they were poor in comparison to what we are accustomed to see in the north. Evidently our moist atmosphere seems to suit this plant much better than the warmer, drier air which prevails in the London district. Beds of *Begonia superflorens rosea* were also very fine here; both they and the beds of tuberous-rooted *Begonias* would, however, have been very much improved by the judicious addition of a few plants of *Dactylis glomerata variegata* interspersed amongst the *Begonias*. Some of the other parks we also visited, but as we have already trespassed too much upon your valuable space we must refrain from further remarks.

The Drill Hall.

We had often read glowing accounts in the *Journal* of the flower shows held in the Drill Hall, and were delighted to find ourselves in time to inspect one of them. Having found out, what to us seemed to be a rather out of the way hall, we entered with high expectations of having a floral treat, expectations which were doomed to a rather sudden collapse. This show was a decidedly poor affair; scarcely anything of really outstanding merit was to be seen. A small group of *Campanula isophylla* Mayi was very meritorious; this will form a welcome companion to *C. isophylla alba*, which is a universal favourite for window gardening, as well as for edging stages in the greenhouse. A few hybrid *Nepenthes*, and some specimens of the Japanese Wineberry showing its free bearing propensities, were about all that was noteworthy, the rest of the show being composed of miscellaneous exhibits of mediocre quality. We were, however, told by one who should know, that the show was very much below the average Drill Hall standard, therefore, we must not attach any blame to, or use any disparaging remarks anent the R.H.S., but simply conclude that in this respect at least the date of our visit to the metropolis was unfortunate. But if we were disappointed in the show we were compensated in another way, in having the pleasure of beholding in the flesh the faces of one or two who previously had only been familiar to us from photographs appearing in the picture gallery of our *Journal*.

Memories of the Past.

Looking back on that week, we still have many pleasant memories of the sights we saw, not only in the busy pulsing heart of the greatest city in the world, but also in the beautiful and well kept public parks and gardens—memories which in after years may prove to be of great practical value.—ALBYN.



Odontoglossum Rolfeae meleagris.

THERE are few growers of Odontoglossums who can excel Mr. W. Stevens, gardener to W. Thompson, Esq., Walton Grange, Stone, Staffs, and when we add to exceptional skill in cultivation the fact that the collection is singularly rich in fine varieties, everyone looks for something good. On Tuesday, December 4th, Mr. Stevens sent to the Drill Hall a superb variety of Odontoglossum Rolfeae named meleagris, to which the Orchid Committee recommended not only a first class certificate but also a cultural commendation. A flower of the new comer is shown in fig. 134. The splendid sepals and petals have a ground colour of milk white with occasional rose suffusion and very profuse mauve markings. The broad handsome lip is white on the front portion with mauve spots and blotches at the base. It was a magnificent plant, in every way worthy of the honours bestowed upon it.

This is a really remarkable variety of the famous hybrid named after Mr. Rolfe, and the progeny of O. Harryanum and O. Pescatorei. I consider it is by far the prettiest that has as yet been exhibited, and it was well deserving of the first-class certificate awarded it by the R.H.S. at the first December meeting. The spotting is lovely and the colour almost indescribable, the pretty rosy tips of the segments being wonderfully attractive, while the lip, square looking as it is in all these hybrids, is magnificent both in size and colouring. It was shown by Mr. Stevens, gardener to W. Thompson, Esq., of Stone, Staffordshire, who is to be congratulated upon such a grand acquisition.—H. R.

Cypripedium James Buckingham.

THIS hybrid, "M. Beaumont," was raised some years ago by Mr. A. J. Hollington, Enfield, and shown before the Royal Horticultural Society in the spring of 1896. It is said to have resulted from a cross between C. enfieldiense and C. bellatulum. The flower is not very large, but all the organs are of remarkable substance. The broad dorsal sepal is deep rose veined with white, the petals being also rose, suffused with whitish green, and spotted with brown. The pouch is of deep rosy maroon. C. James Buckingham is represented in fig. 135.

Cynorchis purpurascens.

This pretty Orchid was the centre of a good deal of interest at the Drill Hall on December 4th, when it was exhibited by Mr. Warpur of Silverhall Nursery, Isleworth. It is a nearly related plant to the Habenarias, but judging by the specimen shown it is a good deal stronger in growth than most of these. The leaves are large and green, and the plant was carrying a large spike of flowers, the ground colour of which is a bluish mauve with a white spot on the centre of the lip and a deeper coloured area under the column. Unfortunately it is not very plentiful, otherwise, as the colour is very unusual among Orchids, it would doubtless soon become popular.

Dendrobium Leeanum.

This has been exhibited in very good form of late, and it is a pity that more plants of it are not in cultivation. It appears to vary considerably in colour, but all the forms of it are very beautiful. The culture is similar to that of D. phalaenopsis and other Australian sorts. Small pans or baskets suspended near the roof-glass in a hot, moist, and light house suit it best, and although a rest is desirable and necessary, it is not wise to force the plants to it by withholding moisture; this simply serves to weaken them. Thrips are the worst insect enemy to this beautiful class of Dendrobiums, and must be kept in check, or good results need not be looked for.—H. R. R.

Eyesores of the Garden in Winter.

I TAKE it that there are few gardens in which there are not, both to those who own, and those who cultivate them, spots that are in some measure offensive to the eye, and in the short days of winter they are not so rapidly dealt with as in summer. Not that the summer is free from them by any means, because then they grow from day to day in their many forms and phases, but it is winter now, and winter troubles only have to be dealt with. It is often repeated, that the garden presents its worst features and its every ill during the winter. First there are the falling leaves, which create and carry in their train extra labour, and untidy lawns, borders, and paths. These are, however, a blessing in disguise, because, what is the garden without its store of leaf mould? When the sweeping machine becomes as generally used as the lawn mower, there will be less to complain of by those who have the work to do, or the owners themselves. It is curious how slowly such convenient and labour-saving appliances are taken up. The initial

cost may seem heavy, but the pleasure derived ought to outweigh this. This season, through the absence of severe frost, the leaves have held on very late, and the work of sweeping has been heavy and continuous in consequence. Most of the deciduous trees are now free of leaves, and the time is right for effecting a general clearance either by digging them lightly into the borders, or taking them to the heap to be later transformed into mould.

During the showery autumn and early winter seedling weeds persist in raising unsightly spots—a favourite position is among the newly planted Cabbage beds and Strawberry plantations. It is entirely out of the question to apply the hoe and rake to remove the evil, so light digging with the spade affords the remedy. Deep digging in either case would be fatal in its effects, and is certainly uncalled for. A mere skimming of the surface, or only sufficient to gather enough soil to bury the offending weeds, should be practised. It is surprising how long ground remains clean and fresh following this light digging, and how easily a pleasant aspect replaces an eyesore in the garden. Such light surface digging does not commit much mischief among

Strawberry roots, and if light dressings of fertilising materials, such as burnt refuse or decayed manure, are spread among them prior to the operation, the roots obtain more than a compensating benefit, and the beds are then free for their winter's mulching of strawy manure. This is indispensable for two purposes—a clean rain-washed straw bed for the fruit to rest on, and a stimulating manure washed into the soil by rain. It may be said, and there certainly is some truth in the argument, that the early strawing itself of the Strawberry beds constitutes an eyesore, but the object is one so indispensable, that the merits of the work overrule the objection. There is, however, no need for this to be carried out just yet, but the surface digging can be completed. The same remarks apply to Raspberry plantations, Gooseberry, and Currant beds.

Herbaceous borders, now so common an adjunct to the kitchen garden, are rendered untidy by the dead and dying flower stems of the past summer and autumn. These can be transported to the trenching plot, where they do good in the small portion of fertility returned to the soil in the process of decay. Tree prunings are better gathered up day by day and submitted to a slow fire, from which comes such valuable substance for applying to the fruit borders. Nothing contributes more effectually to a daily eyesore than the undisturbed retention of the Runner Bean and Pea stakes, with the dead "bine" attached, and it is a feature which in gardens of limited working staff is not infrequently allowed to remain for an indefinite time. There are other eyesores, and it cannot be denied that a little effort is well repaid in their removal.—W. S., *Wills*.



FIG 134.—ODONTOGLOSSUM ROLFEAE MELEAGRIS.



Decorative Chrysanthemums—Bush Grown v. Exhibition Plants.

YOUR correspondent "H. R.," while not exactly disparaging the usefulness of big blooms for decorative work, seems to think that many gardeners give too much valuable space to these, to the exclusion of bush-grown plants. I venture to differ from "H. R.," for personally I find large exhibition blooms equal in value for house decoration to those from bush-grown plants, with one exception perhaps—viz., table decorations. Most gardeners house their plants by the first week in October, but there is no need whatever to house all the bush-grown plants at the same time, but only sufficient should go inside to carry on a supply of small blooms after the outdoor or border varieties are over. The majority will retain their foliage much better if left outside. I have to-day, November 24th, housed the major portion of my bush-grown plants, not having had space available for them before, simply because my houses (vineries) were entirely devoted to plants grown for the supply of large blooms. I admit the almost entire absence of frost during this November is exceptional, but if severe frosts had been imminent the precaution of laying the plants down and covering with mats would have prevented injury; or better still, I could have stood the plants thickly in the pathways of the houses every night, and replaced them outside every morning. By adopting this method the plants are practically outside eight weeks longer than the large flowering varieties, and beyond just looking to their requirements for water are very little trouble. The plants housed the first week in October have been getting smaller and smaller through being used in the conservatory or the mansion. In the latter case some are used as single specimens in suitable positions; some are massed in fireplaces for any particular event, while the flowers of others are cut with long stems for filling trumpet and other shaped vases. These help to give the rooms that noble appearance which cannot be obtained by the aid of bush plants alone. I therefore maintain that exhibition sized blooms are indispensable for decorative work during October, November, and December.—A. JEFFERIES, *Moor Hall*.

December Chrysanthemums.

CHRYSANTHEMUMS which bloom and last well into the month of December are of the utmost value, and growers who have to cater for decoration, especially cut blooms, should endeavour to cultivate, in addition to November varieties those which can be relied upon to give the necessary blooms during December, and the later they can be secured in good condition the better.

The Japanese class contains varieties which are suitable for all seasons—early, midseason, and late. Varieties for the latter season are necessarily limited in number—very much limited towards the end of the month. Among the best varieties which can be had in bloom are Niveus, white; Pride of Ryecroft, yellow; Sunstone, light yellow; Edith Tabor, pale yellow; Julian Hilpert, creamy primrose; C. W. Richardson, yellow; Madame Ad. Chatin, white; W. H. Lincoln, yellow; Etoile de Lyon, lilac rose; Golden Gate, yellow; Clinton Chalfont, rich golden yellow, small useful blooms; Winter White, white; Christmas Favourite, white; Stresa, bright yellow; Princess Victoria, white; Red Canning, bright red; L. Canning, pure white; Golden Gem, bronze crimson; Golden Dart, buttercup yellow; Yellow Ethel, yellow; Silver Cloud, white, shaded salmon; Princess Blanche, white; Rose Wynne, delicate blush; Mrs. E. W. Clarke, deep claret purple; Tuxedo, beautiful orange; and roseum superbum, purple.

The thread-petalled or spidery varieties are useful and attractive during December, as, being small blooming varieties, generally the flowers do not damp so quickly. Among the best of these may be noted Miss Harvey, a beautiful white, forked, short thread petals, slightly green centre; Cannell's Favourite, white, yellow centre, small petals, flat, slightly pointed and forked at the tips, a pretty variety; Sam Caswell, pink and blush, thread petals, like shavings; Mrs.

Filkins, golden yellow, pretty, small, flat petals with forked or notched points; Arachnoideum, light cream, the petals are wiry, twisted, and contorted in various directions, like spider's cobwebs; Red Thread, small, very short, slender petals, bronze and yellow, lower parts yellow; Lovely, white, very short, curly twisted flat petals; Centaurea, deep orange yellow, short curled and twisted petals; White Jitsujetsui, white, flat, short pointed petals; Jitsujetsui, silver pink, flat pointed petals, some striped white and pink; Mrs. W. Butters, pure white, large, beautiful fluffy variety, with forked petals; Alice Carter, reddish brown, tipped with gold, distinct thread-like petals. These are excellent varieties for decoration in sprays of several flowers.

Among the incurved varieties rather late in blooming are Bonnie Dundee, orange bronze; Bronze Jardin des Plantes; Jardin des Plantes, bright orange; C. B. Whitnall, maroon; C. H. Curtis, deep yellow; Guernsey Nugget, primrose yellow; King of Orange, orange yellow; L'Amethyste, violet; Miss Marechaux, white; Mrs. F. Hepper, white; Mrs. Norman Davis, yellow; Mrs. J. Gardiner, yellow, shaded bronze; Princess Teck, white, shaded pink; Robert Petfield, silvery mauve; Rose Owen, rose pink; Sir Titus, silvery rose; Sir Trevor Lawrence, milk white; and White Globe, white.

In the reflexed class Boule de Nieve, white, is an excellent late variety. Among the Anemone Pompons Virginale, white; Calliope, ruby red; and Late Duchess, white, are good. Of Pompons Golden Gem, yellow; Snowdrop, white; and Yellow Snowdrop are the latest. Late Chrysanthemums should be kept in a cool dry temperature with slight heat, so as to steadily develop the blooms and preserve them when open. The smallest blooms, if of good form and fresh appearance, are acceptable at this season.—B. H.

National Chrysanthemum Society.

THE Classification Committee held a meeting on the 10th inst., Mr. J. W. Moorman presiding, and dealt with a large number of the newer incurved varieties. They increase with considerable rapidity, and it is necessary they be followed closely in order that exhibitors who show under N.C.S. regulations may know which are accepted as true incurved.

The new introductions of late years have done much to stimulate interest in this type, and during the past two months by reason of the introduction of so many new varieties of much larger dimensions than were seen only a few years ago, large and highly developed blooms can now be seen on stands. That large blooms can be shown exhibiting the fine quality seen years ago in those of smaller size is clearly apparent. It may be necessary to have not a few from a particular bud in order to have them of the most refined character, but it is a certain fact that the exhibitor has now a much wider range of selection, and the task of setting up a stand of twenty-four varieties is not nearly so difficult as it was a few years ago.

On this occasion the following varieties were classified as incurved, and may be shown under N.C.S. rules:—Annie C. Love, Comtesse d'Estoire, Creole, Emile Nonin, Frank Hammond, Fred. Palmer, Fouka, Golden Madame Ferlat, Henry Ellis, J. Pearce, J. W. Wilkinson, John Carvil, L. M. de la Drome, Lydia, Madame J. Steele, Madame Mante, Madame Vermeul, May Bell, Mervyn Pinford, Miss Annie Hills, Miss F. Southam, Miss N. Southam, Mrs. Henry J. Jones, Mr. A. E. Stubbs, Mr. E. Bennett, Mr. F. King, Stephen Gomm, and Watteau. Several flowers of doubtful character were passed over as needing further trial.

Certain varieties of incurved, hitherto bracketed as too much alike, were, owing to the experience gained in trials, added to the testimony of experts, declared to be distinct—viz., C. H. Curtis and Major Bonaffon, Duchess of Fife and Mrs. Airdie; so also in the case of Japanese Australie and Mr. T. Carrington, also classed as too much alike. These are now classed as distinct. Lewisham Belle (H. J. Jones) is classified as a true reflexed variety.

Notes on the Past Season.

Now that the exhibition season is past those responsible for the management of the various shows have time to reflect upon the results of their efforts to carry out the programme arranged, strengthen weak places, and in other ways make what improvements suggest themselves for next season. When we take into consideration the general quality of the blooms displayed throughout the whole season there is abundant reason for congratulation. The quality has been quite up to the average, and in some instances even a higher standard has been attained. In the incurved section much improvement was manifest, not only in the quality of individual exhibits, but in a general increase in competition and interest taken in this section. It was nothing unusual to find half a dozen competitors in many of the classes devoted to incurved varieties. This is to a large extent accounted for by the great increase of commendable varieties which go to make exhibiting much easier.

It is not now difficult to make up a stand of thirty-six incurved varieties, quite independent of the Queens, which is a plain proof of the advance made in this section. Many fine stands have been seen during the past season of incurved blooms, but in several instances I noted there was too great a tendency towards size at the expense of form, which is usually known as neatness and finish in the petal. Judges in some cases showed too much leaning to size, at the expense of quality. If they would set their faces at all times against roughness and favour quality we should quickly see a general improvement in this section. Although, as I previously stated, the members of the Queen of England family are not essential to make up a representative stand of incurved blooms, it is pleasing to note that on many occasions during the late season I noted numerous commendable examples of this type. Especially noteworthy were blooms of Golden Empress and Alfred Salter, which, to the admirers of this favourite section, was distinctly pleasing, and buoying them up with the hope that ere long we shall see a general resuscitation of this family.

One important point to cogitate upon is whether the general interest is maintained in the shows throughout the country. This point interests the managers of all societies. Here and there instances of a want of competition could be found, but in all cases a reason could be found. A lack of encouragement in substantial prizes, convenience of site, and the inclement weather at the time, are all causes of disappointment. When we take into consideration the adverse weather prevailing at the time, it cannot be said that societies in general were not substantially supported by the public. Even if the first day was a financial failure, the second day's takings were frequently a full compensation. From personal experience I have no hesitation in saying that the interest in Chrysanthemum culture and exhibiting is well maintained in spite of what some writers would have us believe.

Have we learnt anything of importance in the management of societies or in the staging of blooms that can be termed an advance or an advantage? is the next point to consider. Speaking impartially, but with ample opportunities of observation in many parts of the country, I assert that the lessons gained have been few and the advancement small. Everyone will have noticed the continued decrease of admiration for the orthodox method of staging Japanese blooms. We march slowly in staging, but every year we have further proof of the useless system of staging. It cannot be denied that the cup and tube and stand are advantageous in showing the individual quality of the blooms. For hiding defects, too, they are perfect, especially in the case of stale florets bad centres, or unevenness in "build." The increasingly popular system of displaying the blooms of this section in vases, baskets and otherwise has much to recommend it, especially as illustrating the value of Japanese Chrysanthemums for home use and public display. Whether the vases should include suitable greenery is a question for the near future. Personally, I think some variation might usefully and safely be employed in the methods adopted.

The present rage is for large blooms. This is quite right when quality is also taken into consideration. Size is the leading attribute to be sought for in the quality of a bloom, as it is in a bunch of Grapes, a plant, or an Onion. This dominating feature must, however, be accompanied by excellence of colour, form, and grace, with substance of petal. Few societies give sufficient encouragement to the varieties known as "decoratives"—those not large enough to be admitted to the exhibition arena. What could be more handsome, interesting, instructive, and useful than masses of such varieties as Source d'Or and its sports, Lizzie Adcock, Roi des Précoces, Lady Selborne, and the various single-flowered varieties like Mary Anderson, Purity, and Souvenir de Londres for example? There is no denying the interest taken in such a display. I do not advocate the employment of any one section or method of exhibiting, all are beautiful when properly taken in hand, and should be encouraged for their usefulness.—E. MOLYNEUX.

Planting Fruit Trees.

THE planting of fruit trees in the autumn as soon as the leaves commence falling, and even with a few green leaves at the points of the shoots, is unquestionably an excellent practice, for then the ground is warm, fairly moist, and readily workable. Trees, therefore, carefully lifted, the roots protected from the drying influences of the atmosphere, and not kept out of the ground for any great length of time, take to warm moist soil at once, and experience no check but of a salutary nature, especially if there be a full complement of healthy fibrous roots.

Preparing the Ground.

The ground for fruit should be deeply dug, bastard or full trenched, whether rich, poor, or of medium quality. In the case of poor soil a moderate amount of manure may be mixed with the subsoil, incorporating well, but it must be sparingly used in the surface soil, and in a thoroughly decayed state. A soil rich in organic matter will need little addition for the early growth of fruit trees; indeed, it is best to encourage only a medium growth of wood, but a free extension of fibrous roots. A 2-feet depth of soil will meet the full requirements of fruit trees if the subsoil below is sufficiently loose to permit superfluous moisture to drain away. If the soil is shallow increase its depth if possible, even if some of the barren soil has to be removed. If possible substitute good loam of a holding character, and mix with the best of the staple. On damp, badly drained sites the soil must be

raised above the level, in order to provide a warmer and drier position for the roots, and prevent their descent into the subsoil. It is advisable in such cases to provide stations for the trees 6 or 8 feet in diameter instead of raising the whole body of soil; the base should be drained with a foot depth of rubble, this being under-drained to carry off superfluous water.

As regards the materials for borders, I have not found anything better than good fertile garden soil previously enriched and well worked, the change from vegetables to fruit trees being of a very favourable nature. On shallow land the inferior subsoils may be advantageously removed to such extent as to admit of replanting with good top spit mould, adding to it some turf, wood ashes, and old mortar rubbish, intermixing

well. This is particularly advisable if the planting of stone fruits is contemplated and the soil is deficient in calcareous matter.

Fruits for Walls of Different Aspects.

Specially prepared borders either in the open in suitable places and against walls afford good positions for the choicer fruit, all aspects being suitable for some kind of fruit or other. South, south-east, and south-west aspects are the most suitable for Apricots, Figs, Grapes, Peaches, and Nectarines where these succeed outdoors. In localities where they do not the space may be occupied with the most select varieties of Apples, Cherries, Pears, and Plums. Eastern aspects answer best for Plums, and western ones for Pears. Northern positions suit Morello Cherries, late Gooseberries, and Currants. The best form of trees for walls are espalier, cordon, and fan-shaped. Comparatively narrow strips of ground in favourable situations in the open may be occupied with espalier trees, as well as cordons, trained to wire fences, also bush and pyramid trees. In many cases the borders selected need little preparation beyond deeply digging or trenching, working the soil thoroughly at least 2 feet deep, but not bringing stubborn material to the surface. In unfavourable subsoils draining is imperative.

Width of Borders for Fruit Trees.

The width of fruit tree borders will be regulated by the quality of the soil and the ultimate size of the trees. As a rule the width corresponds to the height of the wall, fence, or espalier, as the roots extend as wide laterally as the branches. The largest trees trained on the highest walls certainly require a border of 9 to 10 feet width, the



FIG. 135.—CYPRIPEDIUM JAMES BUCKINGHAM. (See page 527.)

trees being of spreading habit and on free stocks. For cordon trained trees 5 or 6 feet wide borders suffice, even for the longest cordon, and 3 feet is quite enough for short cordons, and also for wall trained Gooseberries, Red and White Currants.

Distances for Planting.

Horizontally trained Apples and Pears on free stocks should be planted 20 to 24 feet apart against walls 12 feet high, 6 feet less in distance on lower walls or espalier fences; on the dwarf stocks 12 feet apart. Apricots, Cherries, Nectarines, Peaches, and Plums 15 to 20 feet asunder, the form of trees being dwarf trained fan-shaped; upright and diagonal cordons may be planted 18 inches to 2 feet apart. Bush or pyramid Apples on the Paradise stock should be planted 6 feet asunder. Pyramid Pears on the Pear stock 10 feet apart, on the Quince 6 feet. Cherries on the Mahaleb stock may be 6 feet asunder. Trees on dwarfing stocks that make strong growths readily should be regularly root-pruned, this being necessary in some cases to induce and maintain a fruitful character.

Selection of Trees.

Selecting trees is a matter of judgment. Trained trees—those which have had timely regulation of the growths—are better than untrained of similar age, and for general purposes should be purchased when two or three years old. In the case of untrained trees, even maidens, time is lost in pruning and training in order to lay a foundation of branches. Fruit nurserymen of repute prepare properly trained fruit trees in almost every shape the purchaser can desire for planting against walls, fences, espaliers, and in the open. In selecting it is well to secure trees that have made a good growth of medium strength, and have clean wood. The roots usually correspond with the heads, such trees having a number of fibres, and being carefully lifted, the roots kept from the atmosphere as much as possible, they transplant readily and grow freely. It is neither advisable to select trees with strong growths nor those that are stunted. In lifting the trees the holes for the trees should be dug wide and shallow before uncovering the roots, for it is important that these be not long exposed, as they lose vitality under the influence of drying air.

Planting.

Previous to planting examine the roots, and cut all bruised, jagged, or torn ends smoothly across in order that the wounds may quickly heal and fresh fibres be emitted. Form a "seat" for each tree by placing in some good soil, such as fibrous loam with the grass reduced and a little wood ashes mixed with it, or some well ameliorated mould may be taken from the surrounding surface. The position should be of such height that when the tree is introduced and the roots covered, its collar or junction of the stem with the soil will be at the same level as it was before, as indicated by the soil-mark on the root-stem. Make the soil firm before placing the tree in the hole, and spread the roots out in layers to their full extent with a slight downward inclination. Work the soil amongst the fibres carefully in an outward direction, so that their points are not twisted backwards, and let the upper layer of roots be within 4 inches of the surface. Make firm about the roots and over them, but not immediately on the surface, as this is best left rather loose for rain and air to enter freely. Stake the trees securely, as wind disturbance disarranges the roots. A light mulching of short littery manure from the stem to a little beyond the spread of the roots will serve the fourfold purpose of conserving the soil's heat and moisture, preventing the entrance of frost, enriching the surface soil, and inducing the fresh roots to push freely therein.

Securing Wall Trees.

Wall trees should not be nailed or tied permanently in position at planting, as the soil will sink, and opportunity must be allowed for the trees to settle with it. A few loose ties are sufficient to keep cordon, fan-shaped, and horizontal-trained trees in position until the soil consolidates, this being effected by the time shortening of the growths requires to be done in early spring, when the main nailing or tying-in should be performed.

Fruit Trees in Grass.

Where it is intended to plant fruit trees in grass the turf should be pared off within a circle of 6 to 9 feet in diameter, according to the size of the trees and the nature of the soil. In most cases the top spit soil will be good, therefore place it on one side, and the spit below on the other; then break up the bottom, and if very stiff and clayey remove some of the worst, and fill with better material. Top-spit soil from well-enriched fields or gardens, mixed with road scrapings and old mortar rubbish, forms suitable material. In some cases it may be necessary to place in drainage of a coarse description, when a layer of mortar rubbish is useful over it; but it is no use providing the drainage unless connected with a tile drain having proper fall and outlet. Return the top spits, adding to them turfy loam. The

stations thus prepared will be higher than the surrounding grass, which is a decided advantage, especially on heavy and wet soils. At planting time, for the stations should be made in advance, drive a strong stake into the centre of each hole, and plant the tree against that, securing with ligatures that do not cut the bark. Spread the roots out carefully, pruning damaged ends, and not burying the stem deeper than before. The trees most suitable for orchards are standards, the stems being 6 feet high. They should be planted 24 to 30 feet asunder. The surface to the extent of the circles is better mulched with short manure, and this part ought to be kept clear of grass and weeds until the trees are fully established.

Small Fruit's.

In the matter of small fruits a richer soil is required at first than is advisable for other fruit trees. The ground, therefore, is usually trenched as deeply as the good soil allows, stirring, if not bringing up the bottom, and turning in abundance of rich material, consisting of decayed manure, old turf, and vegetable compost. The soil is thus prepared for Currants, Gooseberries, Raspberries, and Strawberries in order to secure a good plant that will come quickly into full profit. Currants and Gooseberries should be planted 5 feet asunder, this giving room for cultural operations and ease in gathering the crops. Raspberries are usually planted in lines or clumps, the former 5 apart and the latter 3 feet between, in rows 5 or 6 feet asunder.

Times of Planting.

The planting of fruit trees and bushes may be carried on quite safely at any time from the fall of the leaves until the swelling of the buds in the spring, always provided the weather is mild, the ground not frozen, and the soil in good working order. Very early autumn and very late spring planting may be feasible when the trees or bushes can be planted almost as soon as lifted, but if they have to travel considerable distances neither practice is commendable.—G. A.

Veitch's "Manual of Coniferae."

In the form of a large octavo of some 550 pages, Messrs. James Veitch & Sons have put forth a new and greatly enlarged edition of their "Manual of Coniferae." Specialists in this line who have already some acquaintance with the first edition will not fail to welcome the advent of the present work as bringing us the latest information upon this very popular order of timber trees. When using the word "timber" due regard must, however, be had to the fact that many of the recent introductions of Coniferae are still in the probationary stage as respects their utility for this purpose. Some of them serve for little other than firewood or fencing purposes when their beauty has disappeared or their vitality has become exhausted upon uncongenial soils.

But it is not from the more serious aspect of afforestation that the Conifers have of recent years attracted so much attention. They will, no doubt, after years of acclimatisation reveal their capabilities in this respect and contribute their quota to our ever-increasing stock of timber trees. In the meanwhile, however, their rapid growth and their almost invariably graceful habit during their early years must render them prodigiously popular with every ornamental and landscape gardener.

When we look back upon the history of gardening during the last seventy years, we can note how the development of the art has kept pace with the advance in our social and political conditions. With the extension of the empire and the increase of wealth came the growth of Suburbia round every city. This Suburbia gradually blends into a zone of more important residences, scarcely to be dignified with the name of country seats, while farther out are to be met the imposing homes of the aristocracy and gentry, such as the country alone showed during the period of the Georges. It was necessary, then, that if these many gardens were to be made really attractive in the dead season that something other than flowering plants and deciduous trees should be discovered. If nothing had been done most gardens would during five months of the year have differed little in their funeral aspect from that of a churchyard, and indeed, judging from old illustrations of celebrated mansions, a very considerable dullness must have reigned over the landscape during the winters of our forefathers. Even the vaunted spring of the Elizabethian poets must have had nothing to show comparable to the glories of the flowering shrubs displayed by our modern gardens during May in this age of Victoria.

Therefore it may truly be said that among the many wonderful changes of this our era none have contributed more to alter and beautify the face of our England than the introduction of Conifers and

flowering shrubs of various kinds, and in this movement none have played a more prominent part than the publishers of this work on Coniferæ which we have now the pleasure of noticing. Certainly the love of Conifers can be exaggerated, and when in passing a £20 a-year villa by the roadside we see a *Pinus insignis* in the central bed of the front garden, a *Wellingtonia* under the windowsill, and a *Pinus monticola* somewhere in the neighbourhood of the back door, one feels that a time must come when the occupant will realise that the planter did not proportion the means to the end. But misuse such as this cannot be laid at the door of Messrs. Veitch and Sons, and besides it is more than compensated for by the noble vistas which now open up to us across beautiful lawns where *Piceas*, *Abietes*, *Thuias*, *Pinus*, and *Araucarias* make a delightful contrast to the ancestral favourites which we have long been accustomed to associate in our minds with the name of woodland scenery.

On turning to the section "Bibliography," where are set out the sources from whence so much compressed information has been drawn, it is easy to see that the book before us represents but a tithe of what Mr. Kent might have written upon his favourite subject. Irrespective of the transactions of botanical societies home and foreign, we find sixty-three quoted authorities comprising most of the names distinguished in botanical science during the last two hundred years, from Kæmpfer, Pallas, and Thunberg down to Maximowicz, Mayr, and Masters. In this concentrated repertory the enthusiast in Conifers will find all the information botanical, paleontological, and historical upon the subject, together with numerous diagrams enabling him to identify most of the species attainable in this country. In the matter, too, of notes and references, the reader will never be left in doubt, Mr. Kent having been very careful to indicate the authorities upon which his statements are based. One may say that the book comprises a succession of small monographs, of which the biographical notices alone afford the most entertaining reading.

Mr. Kent sums up upon the Coniferæ by enumerating eighty-four genera and 310 species. He indicates their distribution over eight areas of the earth's surface; these are respectively the Euro-Asiatic, the Mediterranean, the East Asiatic, the North American (east), the North American (west), the Tropical, the Australian, and the South Temperate. Of them our own, i.e., the Euro-Asiatic, is the most poverty stricken region in respect of Conifers, only fourteen species being indigenous; and this means all the land extending north of the Alps from Ireland to Mongolia. On the other hand, North America can boast of ninety-nine indigenous species, while south of the Alps, from Spain to China and Japan, the number is eighty-three. Australasia and Chile yield seventy-three, and the whole tropical zone but forty-four.

We learn here that the British Isles within our own historical period have possessed only three native specimens of Conifers—the Yew, the Juniper, and the Scots Pine—but this was not always so. During the Cainozoic or later period of the Tertiary epoch, ere the glacial stage has set in, Europe was well favoured with Conifers, and the fossil evidence goes to show that at one time in these islands there flourished *Taxodiums*, *Sequoias*, *Ginkgos*, *Podocarpus*, *Araucarias*, *Tsugas*, and *Cryptomerias*. It is for meteorologists to prophesy what fate looms before these lands, and whether the climate is likely to become milder or more rigorous. At present it would seem that it favours many Conifers which anciently could not survive, and that the whole history of their acclimatisation here is the test of how much our mean temperature has risen (we do not speak medically) during the later historical period. In publishing this work, Messrs. Veitch & Sons very materially assist in this experiment of re-establishing the Coniferæ in their old home, a process which will extend over many generations, of which we shall form no part. However, those living in the present generation are in a position to contribute valuable data regarding the peculiar habit of many newly introduced Conifers. Perhaps in none is a greater interest taken by ornamental gardeners than in the *Sequoia Wellingtonia*. This Dr. Lindley erected into a distinct genus and named after the Iron Duke in 1852, within a year of his death. We English still continue to call it "Wellingtonia," but Dr. Seeman, in 1855, showed that it is a species of *Sequoia* and that the correct designation is *Sequoia Wellingtonia*. The following extract will give the best idea of what we wish to express when speaking of Mr. Kent's dexterity in combining excessive information with a good narrative style:—

The first white man who saw the "Big Trees" was probably John Bidwill, who crossed the Sierra Nevada, in 1841, from the east into California, when he passed in haste through the Calaveras Grove, at that time Indian country and exceedingly dangerous to traverse, but he made no mention of his discovery till after the trees had been seen by the hunter, Dowd, eleven years later. In 1852, Dowd, while following a wounded bear, passed through the forests of *Pinus Lambertiana* and *P. ponderosa*, and entered the Calaveras Grove, where he saw the gigantic trees for the first time, and communicated his discovery to his comrades. Shortly afterwards Dr. Kellogg forwarded specimens to Doctors John Torrey and Asa Gray, and he also informed William Lobb of the discovery. Lobb, who had been sent on a collecting mission to California by the late Mr. James Veitch, was at that time staying at Monterey, but he lost no time in making his way to the Calaveras Grove, where he collected a large quantity of cones and seeds, which, with two living plants and herbarium specimens, he brought to England late in the autumn of 1853, and from him was obtained the first authentic account of the "Big Trees." The specimens brought home by Lobb were placed in the hands of Dr. Lindley for determination, and he, believing the tree to be generically distinct from

the Redwood, created for its reception a new genus, which he named *Wellingtonia* in these terms: "The most appropriate name for the most gigantic tree that has been revealed to us by modern discovery is that of the greatest of modern heroes; let it then bear henceforth the name of *Wellingtonia gigantea*." Lindley's generic name was, however, soon after challenged by both European and American botanists, and when staminate flowers which Lindley had not seen were procurable and were found to be identical in structure with those of the Redwood *Sequoia sempervirens*, the conclusion was inevitable, a conclusion strengthened by the identity in structure also of the ovuliferous flowers and cones, and by the similarity of the two trees in stature, bark, ramification, and even in certain states of the foliage.

The immense size of the *Wellingtonias* naturally led to conjectures as to the ages of some of the "full-grown giants," but which in the first instances were enormously in excess of the reality. The earliest approximation to the truth was obtained by Professor Whitney, the State Geologist of California, by counting the rings of a felled tree in the Calaveras Grove. This tree was 24 feet in diameter exclusive of the bark, and contained 1255 annual rings at a section of the trunk made 30 feet from the base. "There was a small cavity in the centre of the tree which prevented an accurate fixing of the age; but making due allowance for that, and for the time it required to grow to the height at which the count was made, it will be safe to say that this particular tree, which was as large as any standing in the grove, was in round numbers thirteen hundred years old." The annual rings of other trees counted by different persons gave much higher results, but these were probably exceptional instances. Quite recently a full-sized tree was felled in Fresno County, California, and a section of its trunk set up in the Jesup collection of American woods in the Museum of Natural History at New York, and another section from the same tree, next above the Jesup section, was secured for the British Museum of Natural History at South Kensington, and is set up in the Central Hall; the annual rings of this section have been carefully counted, and found to number 1335. This particular tree was 62 feet in girth at 8 feet from the ground, 300 feet high, and without branches for 200 feet of its height. From these and other authentic data it is not unsafe to infer that none of the existing *Wellingtonias* ante-date the Christian era, or that with very few exceptions the oldest of them reach within five hundred years of that epoch, and whose ages therefore do not much exceed that of the oldest Yews in Great Britain.

The *Wellingtonia* has proved hardy in Great Britain and Ireland; it grows in all ordinary soils in which water does not stagnate, but prefers a retentive loam with a porous subsoil, in open airy places, but not exposed to piercing winds; in dry and shallow soils its progress is much slower, and it soon loses its ornamental qualities. The average annual rate of increase in height of the "leader shoot" varies with the locality and its environment from 15 to 25 inches, and even more in young vigorous trees planted in good soil. But the older trees growing under the most favourable circumstances are beginning to show a slow but steady diminution of the annual increase in height of the trunk, so that there is no probability of the *Wellingtonia* ever attaining in Great Britain more than one-half the size and age of its gigantic Californian progenitors. The trunk increases in thickness in proportion to its height faster than in most other large coniferous trees, the circumference near the base being often as much as one-fifth or one-sixth of the height; in *Abietia Douglasi* the circumference of the trunk at the base is generally not more than one-eighth or one-tenth of the height, and this proportion is not much exceeded in other tall Conifers as *Abies grandis*, *A. nobilis*, *Cedrus Deodara*, *Pinus Lambertiana*, &c.

The formality of the *Wellingtonia* as a landscape tree is well known; as such it offers a strong contrast to the irregular contour of many deciduous trees, and is of itself a striking object when standing alone and feathered with branches from the base to the summit. One of the most remarkable arboricultural effects produced by it is the *Wellingtonia* Avenue at Orton Hall, near Peterborough; this avenue extends 700 yards in an east-west direction, and is composed of two rows of trees standing 30 feet apart with an interval of 36 feet between the rows: the trees are fairly uniform, and range from 60 to 70 feet in height. Viewed from the west end, the avenue appears like two enormous walls of green foliage; the impression caused by the vista is not easily forgotten. There is also a fine avenue of *Wellingtonias* at Linton Park, near Maidstone.

Denmark and the Rural Exodus.—In a leaflet issued by the Howard Association, how the Government of Denmark have assisted their farmers is shown in detail, together with the extraordinary successful results of such aids. Rural education is said to be the main secret of Denmark's success, and it is stated that the contrast between the British and Danish rural districts is somewhat humiliating to Englishmen. The leaflet says, "How deficient, compared with Denmark, are the rural schools of England, and how backward are the conditions of rustic society. It is hardly too much to say that the British agricultural interests and population are a century or more behind Denmark. If energetic individuals and societies in both the rural and urban districts of Great Britain and Ireland will imitate the example of the Danish pioneers to the land a 'rural exodus' may be reversed by a strong current of 'back to the land.' Then it may be no longer needful, as now, for Great Britain to spend some 150 million pounds annually for foreign produce which might be grown at home." Denmark has within a few years reclaimed some 2000 square miles of previously waste, and which had been regarded as almost valueless. About five-sixths of her territory is possessed by small freeholders and peasants. The peasantry have established some 400 banks, chiefly under their own management. They have set up cattle-breeding societies, co-operative steam dairies, bakeries, factories, and mills. To-day, says a daily paper, Denmark is the second country in the world in regard to wealth per head of its population.

Other People's Gardens.

WE sometimes get information through the Journal about other people's gardens, but these are, as a rule, large places, and include some of the very best in the country, such as Hatfield House, Mentmore, and others. They are often accompanied by a view of the mansion and other prominent features of the place. No doubt most gardeners are interested in learning what other gardens are like, especially those who do not go very far abroad to see for themselves. In these notes, however, it is not my intention to give a description of some large garden that I have visited, but to confine my remarks to what I have noticed in small gardens.

The gardens of which I would speak are in Yorkshire, and several of them are surrounded by old stone walls, on which many interesting plants are to be found. The owner of one, with which I am well acquainted, takes great interest in gardening. The garden has stone walls on three sides, and on these several native plants flourish admirably. On the top of the east wall *Sedum acre* grows abundantly, interspersed with large patches of *Draba verna*, a very small cruciferous plant bearing white flowers early in the spring. On the side of this wall *Saxifraga tridactylites*, *Arabis Thaliana*, and other less interesting plants make their home. The walls bounding the north and west are covered with *Sedum album* and *S. dasyphyllum*. The latter appears to prefer the sides of the wall, growing much lower down than the former. In the same garden on a grassy bank is a patch of what I believe to be rather an uncommon *Cranesbill*, *Geranium phæum*. It is by no means a showy species, the flowers being small and of a dark dingy purple colour. In the spring this bank is a mass of bloom with *Violets*, *Crocus*, *Narcissi*, *Asperula odorata*, and *Scilla campanulata*. On other walls I have noticed *Linaria cymbalaria*, *Asplenium trichomanes*, *A. ruta-muraria*, and many others.

Several weeks ago when in a small country town, I was asked by a friend to go and have a look through his garden. He takes great interest in his garden, especially in a bed of Good King Henry, *Chenopodium Bonus-Henricus*. To this he drew particular attention, and asked if I knew what it was; when I answered that it was quite a familiar plant to me he seemed a little disappointed. I was then informed that it was a Lincolnshire plant, being much grown in that county and used instead of the ordinary garden Spinach. But, he added, "People in Yorkshire do not know what it is, and even head gardeners from large places have not known it, so I have given them a few roots to plant in their own gardens." In an odd corner was a large clump of what I thought might be one of the *Artemisias*, but my friend did not know what it was himself. When asked why he grew so much of what was of very little worth, he replied, "Well you see I brought it out of Lincolnshire." I at once remarked, "Then surely you must be a Lincolnshire man?" which proved to be correct. Our friend would have kept me all day talking about what people grew in their gardens in that county. But we must confine our remarks to his own. He had, to me, rather a novel method of maintaining the supply of *Asparagus*. His stock consisted of one small bed. Seed is gathered each autumn, and sown on the bed in the spring, so that there are plants of all ages. He informed me that he was advised to do so by a friend, and asked my opinion. Of course, I could hardly agree with his friend's advice, and intimated, if he continued this practice, he would find the bed become so full of roots that the produce would become poor and weak. The garden was fairly well cropped with other vegetables.

Amongst flowers *Cactus Dahlias* and *Chrysanthemums* were the special favourites. The latter included such well known early flowering sorts as *G. Wermig*, *Mdm. Desgranges*, *Golden Fleece*, *La Vierge*, as well as several later flowering varieties. Not taking notes at the time I do not remember what the *Dahlias* were; but they were good plants, raised by himself from cuttings with the exception of a few new ones procured this season. At the back of his house is a good sized greenhouse. It has a *Grape Vine* planted in the centre, with main branches radiating in all directions about the roof. The bunches were, at the time of my visit, just ready for thinning. I had already been informed that no less than a hundred bunches had been cut off. These were laid in a heap on the stage in the house for visitors to look at. He did not intimate how many bunches remained, but no doubt these would also be counted after they were thinned. When I told him it was time for me to be going he answered, "Wait a bit. See, there is just one *Dahlia* cutting left (*Cannell's Gem*). Will you take it home?" It was carefully lifted, packed in damp grass, and wrapped in brown paper and put in my bag. "Oh, before you go have a look at this book," and out came a *Dobbie's* catalogue, well thumbed with corners turned down at *Cactus Dahlias*. So much for garden number two.

It is sometimes said that farmers are bad gardeners; that is quite true in several cases that have come under the writer's notice. But

one at any rate with whom I am familiar has a good and well-cared-for garden. My reason for mentioning this garden is because the common white Lily, *Lilium candidum*, does so well. It may be planted anywhere about the garden with equally good results—clean healthy foliage, strong stems, and pure white large flowers. We cannot get it to grow. I have planted it in ordinary garden soil, imported soil, different positions, disinfected the bulbs before planting, but all to no purpose. Many of the plants die, and the leaves turn brown on those that try to grow, so that the flowers are weak and small. I rather envy my friends their *Madonna Lilies*. In this garden great interest is taken in fruit, there being a large orchard as well as wall trees. Most of Apple trees fruit very well, but some are old varieties, producing small fruit. The lady of the house is very conversant with the different varieties of Apples, and can give much information respecting them. They have great faith in soot as a remedy for the Gooseberry caterpillar; the bushes are dusted over two or three times during the spring. As far as I remember they are not troubled much by this terrible pest.

During the past summer, whilst going through a number of cottage gardens in the capacity of judge, I found that cottagers are taking an increasing interest in their gardens—not only in vegetables, but also in flowers. A large number cultivate Sweet Peas, which are generally found in a row of mixed varieties, and some take a pride in the number of colours they can pick out. There is also a little humour connected with a visit to these gardens, the owners of some apparently thinking we might stay the whole day in their garden. One poor old man not less than eighty years of age, who had a large garden, was very anxious to walk round and show everything. Our time, however, was too limited to admit of this. When he seemed to realise this he finished up by saying, "There is lots of things in my garden; but you won't see them half, you won't see them half." At any rate he came in second, and obtained 15s., so I hope he will not think so ill of us after all. In another garden of which the owner was at home he remained quiet until we had finished. But when we were leaving he walked to the gate with us, giving quite a history of his garden, what a rough state it was in, and how he had worked to get it in order. We had to leave him I am afraid in rather an unceremonious manner.

At another garden we came upon a very fussy old gentleman who would talk. His garden was some distance from the house, and although it was a very hot day he would not go without his coat. We tried to persuade him to come minus the coat, but no, so had to wait until he was ready. "You know, gentlemen, I do not expect to get a prize, but thought I would enter the competition to make one more." Whether he did or not is more than I can say. In a rather small but well kept garden were a few very clean, healthy, dwarf Hybrid Perpetual Roses. When I remarked to my colleague, "There's my old friend Ulrich Brunner," the man's wife, who was showing us the garden, said "Yes, it is," and then gave us the names of all of them. Not only did she know the names of the Roses, but most of the other flowers too, as well as many of the varieties of the different kinds of vegetables. And finally she drew our attention to her *Crimson Rambler Rose*, which was growing up the gable end of a building in one corner of the garden. It was about the best specimen I have seen on a wall, dark green, healthy looking foliage, and large trusses of blooms. She intimated that they had been told it required a great deal of water, and that it had been freely applied during the summer. We assured her that was correct, and advised that it should be well mulched with good manure during the winter, as well, also, to take care of the strong shoots that sprang up from the bottom of the plant. When we meet with intelligent people, a visit to a garden, however humble, becomes doubly interesting.—J. S. UPPEX.

Flowers as Mental Healers.—The statement, credited to the head of the House of Correction, Chicago, that he is convinced that women misdemeanants may be reformed by being taught to cultivate Roses, is based upon sound psychological principles, and is likely to lead to something practical and valuable. One who has observed the effect on his own mind of the cultivation of plants and flowers cannot have failed to perceive its quieting, healing, restorative nature. Excitement, agitation, anxiety diminish when attention is drawn away from one's self to any beautiful object, especially if it be a living, growing beauty. Count de Charney's plant "Picciola," in Saintine's beautiful tale, growing up between the stones of the prison yard, kept from insanity and despair a mind that would otherwise have been wrecked and lost. The story is not without its suggestion of what close contact with life in its lower and simpler forms may do for a soul that is shattered and unstrung through contact with the rough world of sin and care and sorrow. Yes; set the misdemeanants cultivating Roses; give the insane a taste of the joy and sanity of contact with Nature; put a plant in the window of the sick-room; let all who are broken down in body, mind, or soul feel the touch of the healing, restorative forces that clothe the world with health and beauty.—("Vick's Magazine.")

Fuchsias for Baskets and Rafters.

THE ready way in which the Fuchsia adapts itself to varied and oftentimes very adverse conditions has led to its being used for a great variety of purposes, but possibly in no way does it do itself such full justice as when grown in either of the ways above mentioned. Grown on a stage the beauty of the pendulous blossoms cannot be appreciated so well as when hanging from a basket or roof; then the pendant shoots, draped with multitudes of richly coloured flowers and bright green leaves, form a bower of beauty such as is produced by few other plants, and rarely fails to leave a pleasing impression on all who see it.

For basket-work strong bushy plants should be selected in February which have been previously started into growth. These plants ought to be placed in a basket 18 inches in diameter. The baskets should be lined with good fibrous loam, and a mixture of two parts loam, one part leaf mould, and one part dry cow manure used. To this may be added a little bone dust, wood ashes, and sand. After planting an intermediate temperature should be given until the plants are growing away strongly, when a cooler house will be necessary. Until the beginning of May all flowers should be removed as they appear, letting all the strength go to form a good foundation. As the branches become long enough they should be arranged about the basket, to hide it as much as possible. After flowering has

commenced liquid manure or some fertiliser may be given once or twice a week. Placed in a sunny greenhouse specimens 3 feet through can be had by the end of June, which will continue to produce abundance of flowers until the end of October.

For rafters strong cuttings should be rooted in autumn and kept growing all winter. The plants must not have their leads removed, but all side growths ought to be taken out as they appear. This should be done until the plants have reached the bottom of the rafter, when side branches must be encouraged. Really good soil is necessary, and the plants must be fed liberally while growing. By following this plan rafters can be covered in a short time with plants that will flower for at least eight months of the year.

Good varieties for either method of culture are Molesworth and Gustave Doré, red sepals, double white corolla; Charming and General

Gordon, red sepals and purple corolla; Mrs. Marshall, white sepals, scarlet corolla; Lord Beaconsfield, Mrs. Rundell, and Mr. H. Roberts, various shades of salmon and rose, and any other varieties that have a free habit and flower freely. In addition to these the species *F. macrostemma* and its varieties *glohosa* and *gracilis* are excellent for the work, as also is the tall, free growing *F. simplicicaulis*, which bears long pendulous racemes of long tubular red flowers from the points of the shoots.

Plants grown on rafters (fig. 136) should be spurred back in midwinter in a similar manner to Vines, while by taking out as much as possible of the old soil from plants in baskets and filling in with rich compost the plants will do duty a second time without being turned right out.—D.

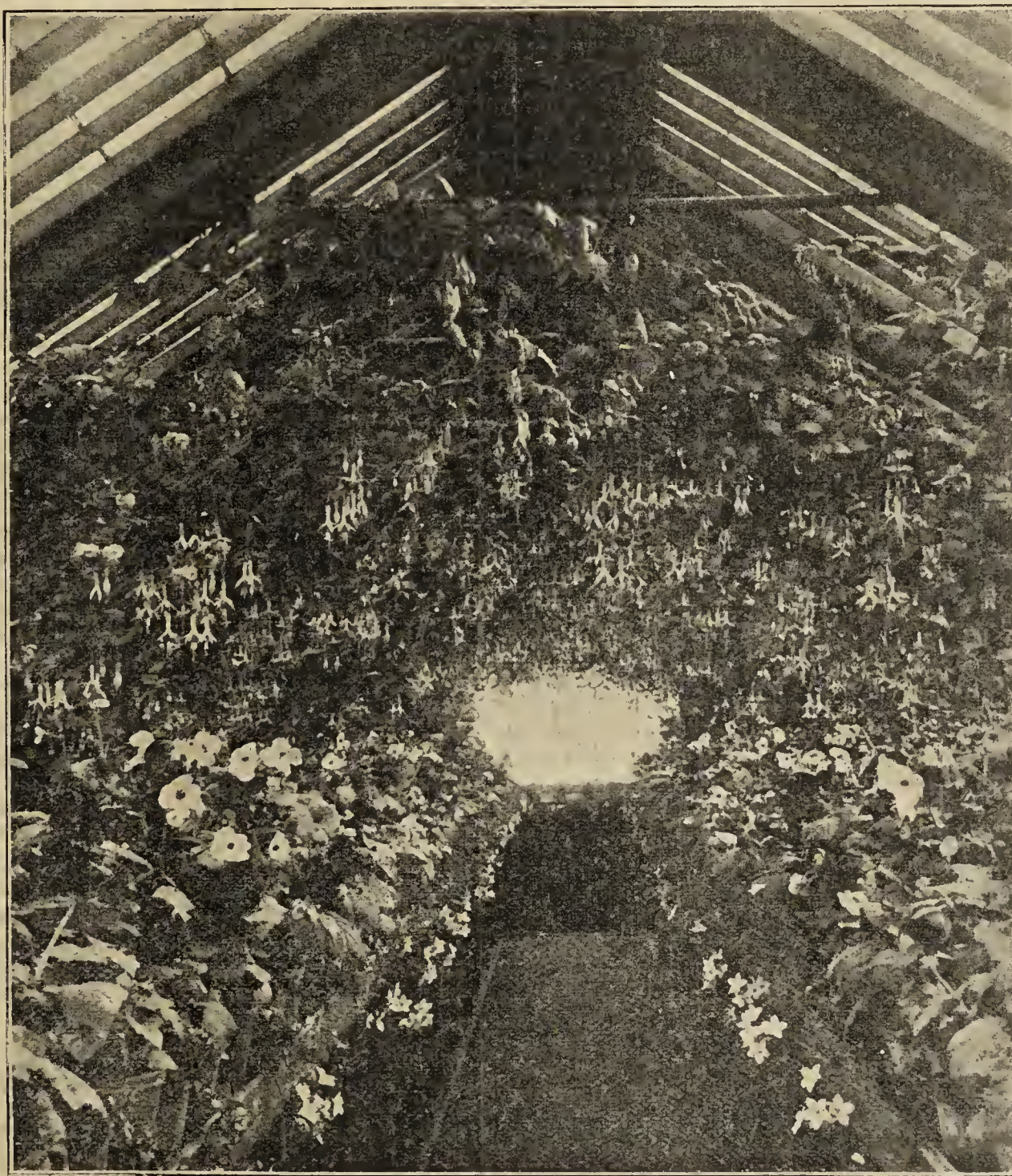


FIG. 136—FUCHSIAS ON RAFTERS.

New Fruits

GARDENERS generally are no doubt very conservative in their views in relation to fruits, especially in regard to new ones, yet now and then we see evidence of ample readiness to grow anything that is really good. Thus we have seen that now universally grown Strawberry Royal Sovereign leap into remarkable popularity in some two or three years, and it seems to be as established in gardeners' esteem as is any old variety. St. Joseph also is gradually being grown everywhere. These are really good things. Superlative Raspberry has become the most popular of all those fruits; so, too, has Early Rivers Nectarine amongst stone fruits. But in other directions we have few such evidences of bounds into popular favour as is found in these

few I have named. Amongst Apples, Pears, and Grapes, and of the latter fruits especially, how many, or rather how few of those that have from time to time been honoured with awards of late as new have made popular reputations? A gardener wrote recently with regard to two not so long since highly enlogised twin Grapes, that after giving them a long and patient trial he had to pull them out. Will anyone take the trouble to enumerate the Grapes which during the last twenty or thirty years have been introduced as new, and received certificates of merit, that are at all widely grown? Where is the new Grape that can displace Black Hamburgh, Madresfield Court, Gros Colman, Black Alicante, or Lady Downe's, or of Muscat of Alexandria, Foster's Seedling, and perhaps Mrs. Pearson, all now comparatively old? And yet we go on certificating Grapes and other fruits sent as new with facility. After all, there is far more honour in granting an award to an old and tried variety that has shown its value in a thousand gardens, than in giving such to something that never will be of service in horticulture.—A., Kingston.

NOTES & NOTICES

Recent Weather in London.—On more than one morning during the past few days there have been indications of slight frost, but these have given place to cold winds. Monday and Tuesday were dry and cool with indications of fog, while on Wednesday it was very dull.

Weather in the North.—The past week has been one of almost continuous gloom and wet. There were short cessations, as on the 4th inst., when there was a slight touch of frost, and the morning was bright for some hours; and again on the 10th, when there were a few fitful gleams of sunshine and a dry hour or two; otherwise there has been incessant rain, and latterly disagreeable squalls. From all parts of the country come reports of swollen streams and flooded lands, from which the Turnip crop, and in several districts not even Potatoes, have yet been removed.—B. D., *S. Perthshire*.

Death of Mons. de la Devansaye.—We regret to learn of the death at the age of fifty-five at Fresne, near Royant, of Mons. de la Devansaye, whose collection of Aroids and Bromeliads was particularly good. He took part in the Hybridisation Conference held at Chiswick in 1899. The deceased was president of the Horticultural Society of Maine and Loire, and was present at most of the large Continental exhibitions and congresses.

Royal Horticultural Society.—The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, December 18th, in the Drill Hall, James Street, Westminster, 1 to 4 P.M. The committees will meet as usual at 12 o'clock. An election of new Fellows will take place at 3 P.M.

Journal of the Royal Horticultural Society.—Vol. xxv. of this publication contains parts 1 and 2, and in addition to matters of general business, includes magnificent portraits of Sir Trevor Lawrence, Bart., the president, Mr. Philip Crowley the treasurer, and the Rev. W. Wilks, the secretary of the society; these are accompanied by brief life sketches. The text of the following papers is given:—"Ornamental Trees and Shrubs," by Mr. Geo. Bunyard, V.M.H.; "The Evolution of Plants," by Mr. R. Irwin Lynch; "The Cultivation of Narcissus," by the Rev. S. Eugene Bourne; "On Problems in Heredity," by Mr. W. Bateson; "Aquatic Plants," by Professor G. S. Boulger; "The More Varied Uses of Roses," by Mr. George Paul, V.M.H.; on "Lilies," by Mr. R. Wallace; on "Cherries and Plums in Pots," by Mr. H. Somers Rivers; on "Montbretias and Crocosmias," by Mons. Emile Lemoine; the "Strawberry and Gooseberry Mildews," by Mr. Ernest S. Salmon; the "Gooseberry Rust and Gooseberry Leaf Mildew," by Mr. T. W. Kirk; and "Saving the Rain," by Mr. Peter Kay, V.M.H.

Royal Horticultural Society—Scientific Committee.—December 4th: On this occasion there were present C. E. Shea, Esq., in the chair; and Messrs. Michael, Wilks (Rev.), and Dr. Masters. **Seed-vessels.**—Her Grace the Duchess of Cleveland sent fruits of the following plants:—*Arauja albens*, fruit consisting of two thick oblong foliioles; *Mandevilla suaveolens*, fruit of two long, narrow, slender foliicles; *Stauntonia latifolia*, fruit a long, thick, oblong obtuse berry; *Cercis siliquastrum*, with legumes like those of a Pea, but compressed; *Magnolia Soulangeana*, a long cluster of foliicles, bursting, and revealing a seed covered with an orange-red investment. **Weeping Chrysanthemum "Pioneer."**—This was one of eleven seedlings from a cross between Eva Knowles and Viscountess Hambledon, raised by Mr. Austen, Ditting Court, Maidstone. The peculiarity of all eleven plants consisted in the downward geotropic direction of the branches, which were bent downwards like those of a Weeping Ash, but upturned heliotropio at the ends when flowers are produced. This peculiar habit would render the plant very useful for certain decorative purposes. No cause could be assigned for the drooping tendency. **Double Cyclamens.**—Some remarkable flowers were sent by Mr. Ker of Liverpool, on which Dr. Masters undertook to report at the next meeting. **Germination of Leucodendron.**—Dr. Masters showed a drawing of seedlings raised by him, and presenting a curious outgrowth from the caulicle (hypocotyl), similar to that in the Pea shown on the last occasion.

New Limited Company.—The old firm of Alex. Dickson and Sons, seed merchants and nurserymen, of 55, Royal Avenue, Belfast, and The Royal Nurseries, Newtownards, has just been registered as a private limited liability company. We believe that there is no intention to offer any of the shares to the public, and the conversion has been effected principally with regard to family arrangements, and to facilitate the control of the already extensive business.

Fox Hunt in Kew Gardens.—The tactics of a fox around Kew Gardens are evidently modelled on those of De Wet. With seventy of the staff at his heels he has evaded them for a whole week, doubling back, and raiding with the coolness of the Boer leader. Several times he has been "hemmed in," only to break through the lines, while the news that his capture was imminent invariably heralded the admission of another regrettable incident—in the shape of commandeered poultry and a black swan. His position on Monday was regarded as hopeless.

Brighton Spring Show.—The queen of southern seaside resorts has long been celebrated for the excellence of its spring exhibitions. The tenth of these will be held on Tuesday and Wednesday, March 26th and 27th, 1901, and the secretary kindly forwards us an advance copy of the schedule. It embodies upwards of six dozen classes, including forty-five open to all; seventeen for gentlemen's gardeners and amateurs, and fourteen for amateurs only, with others in which special prizes are offered. The awards are of good average value, and the Brighton and Sussex Horticultural Society's next show should be equal if not superior to any of its predecessors.

Death of Baroness Schroder.—Horticulturists will learn with regret of the death of Baroness Schröder, wife of Baron Schröder, of The Dell, Old Windsor, who passed away on the 5th inst., after an illness of comparatively short duration. She was a Russian by birth, and married, a little more than half a century ago, Baron Schröder, whose ancestors were among the leading merchants of Hamburg, and whose father was in 1868 honoured with a title by the King of Prussia. He came to this country many years since, and, with the Baroness Schröder, identified himself with the benevolent works carried on by Princess Christian of Schleswig-Holstein. The deceased lady, who was about seventy years of age, leaves no family. Only in September Baron and Baroness Schröder celebrated their golden wedding, when they received the felicitations of the Queen, the German Emperor, and other royal personages.

Public Bowling Greens for London.—The Parks and Open Spaces Committee of the London County Council at Tuesday's meeting of the council, reported that they had considered the formation of bowling greens at the Island Gardens, Poplar, Victoria, and Raveuscourt Parks at the expenditure of £105, £91, and £98 respectively. The committee reported that the greens which had already been formed by the council afforded the means of healthy recreation to large numbers of people, and had been extensively used, and they thought that the playing of this game should be encouraged. At each of the places named there was space which could conveniently be set apart for the game. The work of forming the greens was one which should be carried out during the winter months, and if taken in hand now the greens would be ready for play next summer. The work would be carried out under the supervision of the chief officer of the Parks Department. The cost could be defrayed out of savings under other heads, and to this course the Finance Committee had given their assent.

Mushrooms and the Poison Scare.—At this season of the year the juicy Mushroom, with steak or Yorkshire ham, is to be seen on many breakfast tables. It is often eaten in much needless fear, and more often still passed by in favour of a fungus that is not really a Mushroom. The result comes about because the careful housewife persists in believing that if the cap can be readily peeled "it" is all right. As a matter of fact, the distinction is this. The ordinary edible Mushroom in its infancy has its head covered with a membranous covering which grows on the middle of the stem. When the vegetable arrives at maturity, however, the firm flesh cup expands and repulses the membrane, leaving a distinct ring like a gill around the stem, and also a pendant frill round the edge of the cap, which is rarely more than 4 inches, and never expands to more than 5 inches, in diameter. The gills underneath the cap are at first white, but afterwards change to a salmon colour, and are at maturity of a black brown. In these days of wholesale poisoning, says the "Daily Express," it is well that these facts should be known to Mushroom lovers, whose name is legion.

Beckenham Horticultural Society.—On Friday evening last Mr. John Weathers, of Isleworth gave a lecture in the reading-room of the society on "Horticultural and Botanical Books." There was a fair attendance of members, and the lecturer was listened to with more than ordinary interest while he passed under brief review what he considered were the best books for the practical gardener. As the library of the society contains upwards of 300 volumes the members were able to follow the lecturer much better, he being able to make constant reference thereto. On the proposition of Mr. E. Burge, who conducted the meeting, a hearty vote of thanks was accorded Mr. Weathers "for the very excellent advice he had given."—T. C.

Isle of Wight.—The monthly meeting of the Isle of Wight Horticultural Improvement Association was held at Newport on December 3rd, Dr. J. Groves, B.A., J.P., in the chair. Mr. Wm. Tribbick, gardener to Sir Chas. Sealey, Brook, read an excellent paper on "Bedding Arrangements," which evoked an interesting and profitable discussion. Mr. Tribbick staged two huge blooms of Madame Carnot, each of which was producing innumerable secondary blooms on long pedicels. The blooms and offspring were certainly a novelty. A unanimous vote of thanks was accorded Mr. Tribbick on the motion of the chairman, seconded by Mr. W. W. Sheath, and supported by Messrs. Silsbury, Simmonds, Martin, Mitchell, and others. Several new members were elected at the close of a most instructive meeting.—S. H.

Commons Preservation Society.—A meeting of the Executive Committee of the Commons and Footpaths Preservation Society was held at 1, Great College Street, Westminster, last week. The Right Hon. G. J. Shaw-Lefevre presided. The secretary (Mr. L. W. Chubb) reported that notice had been given of intention to introduce over thirty private Bills during the 1901 session of Parliament, which would interfere with commons, village greens, and open spaces. For railway and tramway purposes 360 acres would be abstracted, and for water works 1200 acres of common land would be taken. The solicitor, Mr. Percival Birkett, was instructed to prepare a report on the Bills, and it was determined, with a view to the protection of public rights, to approach 120 highway authorities within whose area rights of way would be affected by projected railway undertakings. It was decided to request the President of the Board of Agriculture to receive a deputation from the society respecting the need for further legislation to secure the preservation of fuel allotments set out under Inclosure Acts. Grants were made towards footpath cases at Harpenden and Wadborough, and it was resolved to make local inquiries into the position of the Runtun Half-Year Lands, about 600 acres in extent, and situated near Cromer. The secretary stated that since the last meeting of the committee the society had been consulted by local authorities and others in England and Wales in eighty-five cases of interference with common lands, roadside waste, and rights of way.

Reading Gardeners' Association.—The last meeting of the above society proved to be one of the most interesting of the whole session. The committee had arranged a new departure from their ordinary proceedings. Six subjects were selected, and a number given to six members in the room. The chairman then called out one of the subjects and asked that the member holding a certain number should speak upon the subject mentioned. Although in some instances the speakers found a difficulty to fill up the time allowed, and caused a certain amount of amusement, yet the animated discussion which followed brought out many practical and valuable hints on the culture of the following:—Mignonette in pots, Peas for early use, Strawberries, Zonals for winter flowering, Gooseberries. The speakers were Messrs. R. Chamberlain, F. Alexander, E. S. Pigg, W. Burfitt, and F. Lever respectively, whilst Messrs. Blake, Cretchley, Townsend, Neve, Fry, Hinton, Dore, sen., Dore, jun., Davidson, Cox, Smith, and the president took part in the discussion. The exhibits were of exceptional quality. Mr. R. Chamberlain of the Cressingham Gardens, the well-known fruit exhibitor, staged twelve dishes of dessert Apples—viz., Blenheim Orange, Duke of Devonshire, Nonesuch, Mannington's Pearmain, Fearn's Pippin, Sturmer Pippin, Cox's Orange, Rosemary Russet, Glory of England, Ribston Pippin, Court Pendu Plat, and King of the Pippins. Mr. F. Lever of Hillside Gardens Begonia Gloire de Lorraine; and Mr. C. P. Cretchley, The Honeys' Gardens, Twyford, a specimen plant of Gloire de Lorraine. The two former members had entered for the society's certificate of cultural merit, and the judges had no difficulty whatever in awarding them the same. Four new members were elected.

Birmingham Potato Show.—This was held, as usual, in connection with the Cattle Show in Bingley Hall, and never at any previous show was the quality of the tubers more remarkable for excellence throughout, while the competition was exceedingly keen, there being no less than eight exhibits in the various classes. A marked feature in the tubers was that of a medium and useful size. In addition to the competitive exhibits several well known firms were represented, including Messrs. Dickson, Ltd., Chester, who sent roots, grass and Clover seeds; Messrs. Harrison & Son, Leicester, roots and grass seeds; and Messrs. Webb & Son, Stourbridge, roots, seeds, and corn.

United Horticultural Benefit and Provident Society.—The monthly committee meeting was held at the Galedonian Hotel, Adelphi Terrace, Strand, W.C., on Monday evening last, Mr. E. Burge in the chair. Eleven new members were elected, making eighty-three for the year. Three pounds were granted to a member from the Convalescent Fund. An old member, over seventy, was granted 8s. per week from the Benevolent Fund during sickness. A member who had had the misfortune to break his arm was granted £2 2s. from the Benevolent Fund towards his doctor's account. The treasurer reported that he had invested £400 in Cardiff Corporation Stock. A special meeting will take place on January 14th at 8 p.m. for the purpose of increasing the secretary's salary.—W. C.

The Chester Paxton Society.—The annual general meeting of this society was held in the lecture theatre of the Grosvenor Museum on Saturday, the president of the society, Mr. R. Wakefield, occupying the chair. The honorary secretary, Mr. G. P. Miln, submitted the statement of accounts, which showed the affairs of the society to be in a flourishing condition, the sum of £38 16s. 3d. being carried forward after all liabilities had been discharged. Mr. Wakefield's term of office being expired, he was heartily thanked for his valued services, and Mr. N. F. Barnes, Eaton, was unanimously elected to fill the presidential chair for the ensuing year. Mr. G. P. Miln was also warmly thanked for his past services as secretary and treasurer. The following officers and committee were then elected:—Vice-presidents, Messrs. E. Stubbs and A. Ellams; consulting naturalist, Mr. R. Newstead, F.C.S.; members of committee, Messrs. R. Wakefield, Thos. Weaver, John Taylor, C. Flack, J. Jackson, H. Pierce, S. Garner, John Wynne, Joseph Ryder, H. Rowe, John Dutton, W. Pringle, S. May, A. W. Armstrong, A. E. Goodman, J. D. Siddall, John Weaver, John Breen, with G. P. Miln as honorary secretary.

November Weather at Hodsock Priory, Worksop.—Mean temperature, 44.2°. Maximum in the screen, 62.2° on the 1st; minimum in the screen, 28.1° on the 11th; minimum on the grass, 18.0° on the 11th. Number of frosts in the shade three, on the grass fourteen. Sunshine forty-one hours, or 16 per cent. of the possible duration. Difference from average - 5. Rainfall, 1.93 inch. Difference from average - 0.16. Rain fell on eighteen days; maximum fall, 0.32 on the 3rd. Rain from January 1st, 24.10 inch. Difference from average + 0.92. A mild, dull and damp month, with no heavy rain.—J. MALLENDER.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
December.										
Sunday .. 2	E.N.E.	deg. 41.4	deg. 40.3	deg. 43.6	deg. 40.0	—	deg. 44.8	deg. 47.2	deg. 49.9	deg. 37.8
Monday.. 3	E.S.E.	42.2	40.4	51.6	40.3	0.06	44.5	47.1	49.7	37.6
Tuesday 4	W.S.W.	52.9	49.5	54.3	42.0	0.14	46.2	47.1	49.7	41.2
Wednesday 5	S.S.W.	50.0	49.5	56.5	49.5	0.44	47.5	47.7	49.5	46.2
Thursday 6	W.S.W.	49.1	46.9	52.1	48.0	0.10	48.2	48.2	49.5	41.8
Friday .. 7	W.S.W.	43.6	41.9	51.3	41.2	—	47.2	48.5	49.7	29.9
Saturday 8	S.S.W.	51.1	49.8	53.2	33.5	—	45.3	48.1	49.8	26.3
MEANS .		47.2	45.5	52.2	42.1	Total 0.74	46.2	47.7	49.7	37.3

The weather during the past week has been very dull, mild and wet. The mean maximum and minimum for the corresponding week in 1899 was 46.3° and 36.2° respectively, and the rainfall for the same period 0.32 inch.

Shrubs and Trees.

(Concluded from page 515.)

WHETHER clumps of trees are planted for immediate effect or not, it must be duly considered before planting what deciduous trees and evergreens, if associated, are to remain to become fully developed for permanent objects. If the ground is sufficiently large to accommodate one common and one Purple Beech, two Chestnuts, red and white, a scarlet and a white Thorn, and two Laburnums, when fully developed, and these are the trees it is desirable to associate, they should be so disposed on the ground that a distinct feature can be observed from as many points as possible. These main trees must not be planted a few yards only, but the size to which each will attain as it approaches maturity should be considered, and the plants arranged accordingly.

A greater space still must be allowed if it is intended to have specimen Hollies, Pines, and Conifers amongst them. This system where practicable should be followed, for the one displays wonderfully the advantages of the other at the different seasons of the year. The evergreens give a furnished appearance during the winter months when deciduous trees are destitute of foliage. After the main plants have been arranged the remaining ground, if planted at first in the forms of clumps or plantations, can be filled with Sycamores, Privets, Rhododendrons, or any others that the planter may desire to be lifted or cut down as the main trees require room for extension.

Perhaps one of the greatest mistakes in planting is the association of forest trees and evergreens. How frequently do we find narrow belts or small plantations with two or three rows of forest trees, and the front formed with a row of Hollies, Rhododendrons, and others. These may look well while they are young. The front row or two of evergreens may be expected to make reasonable progress; but in a few years the strong ones at the back rob the ground of its fertility, and the smaller slower-growing plants fail to make headway, and soon become bare at the base. At first the evergreens are planted for the purpose of blocking out the interior of the clump, but soon fail to do so through being robbed of sufficient food, partially excluded from light, and subjected to drip from the trees in the background. This system of planting cannot be too strongly condemned, for in the end it is sure to prove disappointing.

Although I have advocated the association of ornamental deciduous trees and evergreens, it is only when the two can be planted with plenty of room for the development of each without the one robbing the other of the necessary materials requisite for development. Plantations can be made of forest trees with evergreens in the front, and very beautiful and effective they are if planted correctly at the commencement and duly attended to afterwards. It is essential to accomplish this to keep the former well in the background, which in narrow strips as alluded to above cannot be done. The tallest trees should be planted in the centre of a large clump, or well in the background. If the former, an evergreen front may be presented all round, the latter being followed when only one front of evergreens is required. It may be supposed that the centre trees are Sycamores or others of similar growth, while to the front of these trees of a smaller size should be planted, such as some of the varieties of Mountain Ash, Thorns, Laburnums, and other trees of moderate growth. In the front may be planted evergreen Privets, and few plants form a better background for other evergreens, or are more beautiful when laden in summer with their deliciously fragrant trusses of white flowers. Privets deserve planting more largely as flowering shrubs when the system I am attempting to illustrate is practised, for they suffer less by association with forest trees than any other evergreen. In good soil they grow rapidly, and soon form large bushes. To the front may be planted Silver Hollies, and in the angles hybrid or other Rhododendrons.

The foregoing example is only one of many that could be given of planting clumps of deciduous trees and evergreens together, where the last-named would flourish and answer the purpose for which they were planted. This in a large measure depends upon judicious thinning after planting. The Privets, as well as the other evergreens, must be given plenty of room to develop, then they would furnish the front, and continue to do so afterwards for an indefinite period. It is surprising under favourable conditions what enormous bushes, beautiful in shape, Rhododendron ponticum will form in a very few years if given plenty of room; but these are generally planted thickly and allowed to become crowded and bare at the base.

Plant Thinly.

Another advantage of planting thinly and thinning out the plants not wanted directly they show signs of crowding is the fact that those exposed to light and air will be thick all round, and thus bave winds and every weather much better than when drawn up weakly. In exposed situations it is of the utmost importance that each plant or tree stands separately with plenty of room to develop naturally.

Before planting it is necessary to trench the ground as deeply as the soil will allow of this being done. If the soil is poor and unfertile a good coating of manure should be added. For Rhododendrons and such evergreens nothing can be better to incorporate with the soil than leaf mould, for the majority of trees and shrubs grow most luxuriantly in it. When planting Hollies, Pines, or choice Conifers it is a good plan to give to each plant a few barrow-fuls of fibrous loam, to which about one-third of decayed manure has been added. This will give the plants a good start, and insure their lifting with good balls of roots when the first thinning requires to be done. If the soil upon the portion of the ground to be planted is poor and shallow a greater quantity of fresh soil may be given to each of the choicer plants. When they are planted singly on the lawn or elsewhere a good sized hole should be made, say three times the distance from the centre, that the roots will extend from the tree or shrub to be planted when first placed in the ground.

The soil at the base must be well dug and manured, mixing with it a good percentage of fresh soil, which should also be incorporated with soil for filling in about the roots. If a good preparation is made at the commencement, and the surrounding soil is moderately deep and fertile, the tree or shrub will in all probability develop into a good specimen without further attention at its roots. When the soil is shallow it is a good plan after the roots have taken full possession of the soil prepared for them to cut a trench round them and fill it with fresh soil and manure. It is surprising how this helps plants, and in the end they abundantly repay for the labour expended upon them.

In order to insure quick luxuriant growth the ground should be well prepared by being trenched and manured as early in the season as possible. The planting, if possible, should be done before the ground has become saturated with rain. Trees and shrubs grow much more luxuriantly in trenched than in untrenched land.—W.

Lilies of the Valley.

WHEN Shakespeare wrote—

“To gild refined gold, to paint the Lily,
To throw a perfume on the Violet,
Were wasteful and ridiculous excess,”

he probably did not refer to the Lily of the Valley; but the moral holds good none the less that it is true wisdom to take a good thing at its proper worth and not to spoil it by exaggeration. We need seek no further qualities for the Lily of the Valley than are apparent to every observer of the flowers of the field—graceful, though lowly, growth, chasteness of hue, and full, delightful fragrance. These are charms enough to secure it a cherished place in every British home, while under another name—the Mayflower—it is grown in several parts of continental Europe.

Its botanical name, *Convallaria*, is derived from the Latin words *convallis*, a valley, and *rica*, a mantle, in allusion to the dense covering formed by its abundant, large, deep-green leaves. It is an earth mantle of foliage without doubt, as anyone will concede after a glance at his own thick—often too thick—bed of these beautiful plants. It is when naturalised, however, that the appropriateness of the name is the more readily recognised—when acres of woodland are carpeted with verdure, and millions of delicate spikes with their load of pendent bells droop over the broad leaves, diffusing fragrance. I have admired a parterre of many acres in a private domain, and thousands of persons went thither to admire them in early summer, but their thoughtless depredations at length compelled the proprietor to forbid the exposure of this beautiful natural picture to the public. Planted under suitable conditions in the garden it will establish itself and yield a yearly supply of blossoms; while grown in pots or pans, or even in moss, and introduced to heat, flowers can be had for buttonholes, bouquets, or room decoration from long before Christmas until the outdoor plants come into bloom. It succeeds, too, in town gardens if planted in good soil and a rather shady situation. Others than the common form of the Lily of the Valley exist in some gardens, notably a rose-coloured variety; but one of the finest varieties in cultivation is the Victoria (fig. 137).

Lily of the Valley may be planted from November to April, but only when the ground is in a friable condition. They are purchased in crowns, these being sold singly, and in clumps bound with soil. The former are large plump, and well ripened, and if properly treated will produce flower spikes. These may be selected for forcing purposes, but after blooming they are of little use. Where it is desired to

establish a bed of the Lilies, clumps should be ordered at once, and they will be sent when the weather is favourable. They contain a number of crowns, a few of which are flowering ones, but the majority will not bloom the first year; nor are they wished to do so, the object

partially shaded position, a very hot and dry one being unsuitable, and dig the soil well, enriching it with leaf soil or well-decayed manure. It is of little use planting in poor sandy or stiff clay land. The clusters of crowns may be inserted in rows 9 inches apart, and the same distance



FIG. 137.—VICTORIA LILY OF THE VALLEY.

being to get the plants well established for blooming well over a succession of years. The clumps may contain a dozen or more crowns each, the roots and earth matted together. These should be separated into smaller clumps of four or five crowns each.

The soil will need some preparation previous to planting. Select a

from clump to clump, sinking the crowns till the tips are an inch below the soil, pressing the soil firmly around them, giving a mulching of decayed leaves or manure. Keep clear of weeds in the summer and water in dry weather, mulching with manure each autumn, leaving it to decay, and vigorous plants and fine flowers will follow yearly.—W.



Winter Flowering Begonias.—At the Kingston Show, a class being inserted in the schedule for six plants in bloom of winter-flowering Begonias, some eight or nine sets were staged, in all cases of Gloire de Lorraine. The new class took on strongly, but it is hoped that another year some growers may find it possible to introduce one or two other varieties at least. If they could obtain tubers of that brilliant crimson scarlet hybrid Mrs. Heal, which Messrs. Veitch and Sons showed so finely at the last Drill Hall meeting, with Moonlight and one or two others, the classes will be made much more interesting. As it was, most of the plants were remarkably well done, and the class was, in that respect and as a novelty, a great success.—D.

Daphne Blagayana.—This is one of the best of the smaller-growing Daphnes, and at the same time one of the most difficult to deal with. It is a small, evergreen, semi-prostrate shrub, and should be planted in a rockery or in some position where it will be sheltered from injury, and is not likely to be smothered by other stronger-growing plants. It is extremely difficult to establish, and should be moved as little as possible, though it is thoroughly hardy, and does not require any particularly sheltered position, provided it is a moderately dry one. The flowers open in March and April, and are borne in terminal clusters of about twenty in each, individually small, pure white, and sweetly scented. The leaves are nearly, or quite, sessile, leathery in texture, $1\frac{1}{2}$ to 2 inches long, of a glaucous hue beneath, and deep shining green above. When well established D. Blagayana is one of the prettiest of dwarf plants, covering a space of 2 or 3 feet square, making a splendid show when covered with its trusses of flowers, and at the same time loading the air with its sweet perfume. It is a native of Carniolia.—C.

American Lemons.—The annual consumption of Lemons in the United States amounts to about 5,000,000 boxes. In 1896, Italy and Spain supplied 4,700,000 boxes of Lemons, and 300,000 boxes were grown in California. Last year there were imported from Mediterranean countries 3,800,000 boxes of Lemons, and 1,200,000 boxes of the fruit came from the Pacific coast. This year, says a transatlantic authority, the importation of Lemons will be considerably smaller than ever before, and, provided the present high standard of the Californian fruit is maintained, the growers of the State will in the course of a few seasons succeed in driving the Mediterranean Lemons from our markets, just as they have driven out foreign Prunes and Raisins. Rough estimates put the capital invested in California in growing and curing Lemons with all the appurtenances at 4,500,000 dols.

Jottings on Pines.—Suckers ready for starting now may be kept until March, and if there is likely to be a scarcity of suckers, any recently potted may be kept in 5-inch pots, affording a light position in a moist pit with a slight bottom heat, and a temperature of 55° at night, keeping them rather dry at the roots. Young stock suffer irreparable mischief from being kept too close and warm. Well ventilated span or three-quarters span-roofed pits, or small houses properly heated and ventilated, are the most suitable for Pine growing. A temperature of 65° at night should not be exceeded, but a mean between that and 55° at night, which, with 65° in the daytime, will keep young stock gently progressing, admitting a little air at the top of the house at 65° , leaving it on all day, but not to lower the temperature below that point, and when the sun raises the temperature to 75° a free circulation of air should be allowed. Keep the bottom heat steady at 80° , avoiding anything approaching to a damp atmosphere. Apply water only when the plants become dry, and then give weak liquid manure. Keep the glass clean, the plants near to it, and allow them plenty of room. In the fruiting department 65° will be ample at night, 5° lower in the morning in cold weather, 70° to 75° by day. Take every opportunity of collecting leaves whilst dry, Oak and Beech being the best; and whenever a favourable opportunity offers push forward whatever may be necessary in the renewing or augmenting the fermenting beds.—PRACTICE.

The Value of Early Spraying.—From the School of Horticulture of Nova Scotia comes a statement that last spring, before the Apple trees bloomed, there was so much wet weather that many orchardists failed to spray their trees, but did spray two or three times after the blossoms fell. In nearly every such case where no early spraying was done the Apples were badly spotted, no matter how many times they were sprayed after blossoming. But those who sprayed early enough had Apples very free from black spots, even though they sprayed only once after the blossoms fell. The wet weather was the most favourable time for the growth of the fungus that causes the black spot. This may explain why some have reported small success from spraying, while other who sprayed no more, but sprayed early or between showers, report good crops of clean fruit.

Lagerstroemia indica.—Among the many tropical and subtropical plants which are said to make a very fine display in their native places many prove disappointing when grown under glass in this country. This, however, cannot be laid to the charge of the plant under notice, for it is said to flower quite as well here as in India, where it is one of the most favoured garden shrubs. To grow it well it should be planted in an intermediate house in loam, given a sunny position, and dried off in winter. On the approach of spring all the previous year's wood should be shortened to get good, strong young shoots. If a lot of growths are made, all the weak ones should be removed when a few inches long, by which means the inflorescences will be greatly improved. Flowering will commence about the end of July, every shoot being terminated with large panicles of pretty fringed blossoms. The flowers of the typical plant are pink, but variation may be had by growing the purple, deep red, and white varieties. It can be readily rooted from cuttings of half-ripe wood, and can be grown and flowered as a pot plant. If grown in the latter way it must be well fed and thinned to encourage strong shoots.—D.

Next Season's Fruit Crop.—It is remarkable how long the leaves remained on many fruit trees last autumn. Some Peach trees were almost in full leaf on the 21st of November, as well as Gooseberries, Raspberries, Nectarines, and Apples. This is very favourable for next spring's blossom, as the fruit buds have such a much better chance of maturing. While the leaves are on they are elaborating plant food, and this goes to swell the fruit buds, harden the young wood, and store up plant food in the tissues of the trees for developing next spring's blossom. The sunny September and December, too, that we had, gave the young wood a fine chance of ripening, which has a great effect on the fruit crop of the following year, especially in the case of those trees which bear principally on the young wood. Wet autumns, when the trees get little sun, and the young wood remains sappy in consequence, are seldom followed by a good show of blossom, and still more seldom by a good crop of fruit. Notwithstanding the miserable November, it is doubtful if the subsoil has got wetted in most places, so that a can or two of water, especially of liquid manure, might well be of service, and be worth the trouble of administering to the choicest fruit trees.—A. P.

Saving His Reputation.—No craftsman likes interference from amateurs, and in this respect gardeners form no exception to the rule, as will be seen from the following story. A former Duke of Bedford planted the large plantation in Woburn Park to commemorate the birth of his daughter. It was more than 100 acres in extent, and it occupied the site of an old rabbit warren, which produced nothing in a botanical way but a few blades of grass with the Heath and Ling indigenous to the soil, and which had been without a single tree upon it. The plantation flourished, and, in the course of a few years, the Duke, perceiving that it required thinning in order to admit a free circulation of air and so give health and vigour to the young trees, gave instructions to his gardener accordingly, and directed him as to the mode and extent of the thinning required. "Your Grace must pardon me," said the gardener after some hesitation, "if I humbly remonstrate against your orders, but I cannot possibly do what you desire, it would at once destroy the young plantation, and, moreover, it would be seriously injurious to my reputation as a planter." "Do as I tell you" said the Duke impetuously, "and I will take care of your reputation." The plantation, which ran for nearly a mile along a frequented high road, was thinned according to the Duke's instructions, and his Grace being a man of his word, caused a board to be fixed in the plantation facing the road with the following inscription: "This plantation has been thinned by John, Duke of Bedford, contrary to the advice and opinion of his gardener."—J. C.



New Grapes.

IN relation to "A. D.'s" note, page 513, I wish to express my regret that Messrs. D. & W. Buchanan were unable to avail themselves of Mr. Crump's kindness in sending bunches of the true Black Morocco Grape to Royal Horticultural Society's meeting on the 4th for comparison with Diamond Jubilee. However, let us hope arrangements will be made next year to have it thoroughly settled. "A. D.," who I believe is a member of the Fruit Committee, will then acknowledge a mistake was made—in fact, report says some of the members have already said so verbally. "A. D." says Black Morocco was exhibited from a Bedfordshire garden as a new Grape. It was well set, in broad clusters rather than tapering. Were not the Diamond Jubilee bunches exhibited models, the equals of which are rarely if ever seen in Black Morocco? If the Bedfordshire grower thought he had a new Grape this does not constitute Messrs. D. & W. Buchanan's an old variety, and if it is right for the Fruit Committee to give Pear Doyenné du Comice a F.C.C., why not old Grapes when exhibited in fine form? As to the R.H.S. Fruit Committee not existing for the trade pecuniarily, I should like to ask "A. D." where the R.H.S. would be if the trade withdrew their support.—J. HAMILTON, *Manderston, Duns.*

Mr. Philip Crowley.

It was a graceful act on the part of the Fruit Committee of the R.H.S. to pass with unanimity the resolution cited on page 517, last week, so admirably introduced by Messrs. A. Dean and H. Balderson. Had an opportunity been afforded it is almost certain that at least one of the reasons why Mr. Crowley was so much admired by his colleagues would have been stated. It was that he so thoroughly understood, and acted in accordance with, the duties of a chairman.

Trusting in the judgment of his friends around him, Mr. Crowley never attempted to lead them by the expression of his opinion on any objects or matters which it was his duty to place before the meeting. He took no active part in the discussions, and was most judicious in his hints of guidance for the effective transaction of business. Rarely, indeed, did the late chairman express any opinion, except when directly appealed to, on the merits of any objects that were placed on the table, but he listened attentively, gave a suggestive hint occasionally, and registered the decisions without any indication as to whether they were in accordance with his own views or not.

Hopes have been freely expressed that when a chairman is authoritatively installed he will not be chosen from the more actively critical members of the committee. If this should be so the person thus elected would be thereby practically muzzled, for no chairman can with any seemliness take a leading part in the discussions, and thrust his opinions on the colleagues over whom he is called upon to preside.—A COUNTRY FELLOW.

Spade v. Fork.

RELATIVE to the adaptability of the spade and the fork for digging, much I think depends upon the texture of the soil—whether of a sandy or clayey nature. Some years ago I had to deal with an adhesive soil, which was not readily amenable to either the ordinary spade or three and four-tined forks. The soil consisted of very stiff white lias clay in South Warwickshire, and even after many years' annual cultivation it proved difficult to work. It was in a reserve garden for strong growing vegetables, and though with a sloping incline towards the south, and generally with a fair amount of stable manure and coal ashes dug into it annually, it ever remained comparatively obdurate in texture, and especially during very wet winters.

Bastard trenching was the method adopted when it was considered necessary to deepen the tilth, as to turn up the bottom spit at once to the surface would have meant years to render the surface readily workable; burning the virgin clay was invaluable. To meet the difficulty of the more readily digging the ground I found that what were called "open" spades had been specially made by the estate blacksmith, being the first of the kind that had come under my notice. They were well adapted for the purpose. The tool was a sort of combination of a spade and a two-tined fork, about the size of an ordinary spade, stout, and with a blade about 3 inches in width and 8 inches long, welded at each end on to the right angle headed framework. It was remarkable to note the number of years one of these well made spades would wear, and when worn out a new blade could be easily attached to the two prong-like sides. I never knew who was the inventor or whether the idea originated on the estate, and also have yet to learn if the tool is kept in stock by manufacturers. It would also be interesting to learn if the tool in question is in use elsewhere.—W. GARDINER, *Birmingham.*

Perpetual Strawberries.

THERE really must be something in the soil of "W. R. Raillem's" garden that improves the flavour of St. Joseph Strawberry, for I cannot imagine so experienced a cultivator not being a judge of it; and besides this, he has given every facility for other folks to judge if they were so minded. But facts speak for themselves, and in this garden as in others, as I said in my note, it has been found wanting. I have had it as your correspondent describes in the open air, and also in pots in frames; and although there has been a fair quantity of fruit, I can honestly say that not one I have tried has been good enough to send to table; and this, too, at a season when good fruit of most kinds has been abundant. "W. R. Raillem" is quite right in upholding it (page 443) as he has found it so satisfactory, but my stock of it next season will be a very small one.—H. R. RICHARDS, *The Gardens, Chorley Wood House, Rickmansworth.*

Late Dessert Fruits.

THIS year has been a record one here with respect to late Peaches, Nectarines, Plums, and Strawberries. To-day (November 25th) we have gathered the last two dishes of Peaches from the open wall, having been able to gather daily throughout October and November. We have also to-day sent in for dessert the last dish of Plums, also a fair, but by no means the last, dish of Strawberries. This somewhat peculiar season has, doubtless, been the chief factor in causing this long-continued supply of late fruits; but we have also to thank those clever pomologists who, by careful hybridising and selection, have given us the good late varieties we now possess. I suppose it would not be rash to predict that the time is not far distant when these fruits will be plentiful on the dessert table at Christmas. It may be objected that the flavour of these late fruits is inferior to the midsummer fruits; and yet they are beautiful and give a pleasing variety, and when the flavour is sufficiently good to cause them to be not only eaten, but highly appreciated, it should be a sufficient incentive to us to endeavour to still further prolong their season.—T. CHALLIS, *Wilton House, Salisbury.*

Chairmanship of the H.H.S. Committees.

I FEAR some members of the Fruit Committee are growing rather bold. They are now invited just prior to the close of each year to submit names of persons who may be, as also Fellows, fitted to occupy seats at that committee's table. The privilege has, I believe, been most satisfactorily exercised, the primary object being to secure the membership of those who have undoubted qualifications, who can attend with fair frequency, and who seek to do their best as members in a spirit of entire impartiality. But I do not think that at any time it has previously been suggested that in relation to those happily rare events, the resignation of a chairman, there has been till now the slightest suggestion that the members of the committee who bear the burthen of their duties so willingly and so unselfishly, also all the blame, what blame is given, should have placed in their hands the right to nominate their own chairman, subject to the approval of the Council. But as the one practice has worked so well there seems to be excellent reason to assume that its extension as suggested would work well also.

The suggestion is not my own, indeed till the recent Drill Hall meeting it had never occurred to me. It was then I first heard of it. But the suggestion went further, and even advised that the occupation of the chair should be for one year only, the occupant retiring yet be subject to re-election. That is no doubt a very drastic proposal, yet one which will not, I trust, alarm the council. Certainly it will not alarm those members of it who may have no special desire to become chairmen. But it may be safely assumed, were the original occupant of the chair an acceptable gentleman, his re-election to the office annually, so long as he desired, would be assured.

It cannot be overlooked that the members of the committee generally have the strongest desire to maintain for the body a high reputation, not only for knowledge and fitness, but also for impartiality. It is one of the unfortunate products of the committee's awards, that when made they enhance the pecuniary value of all new things materially. That is no fault of the committee, but it is an accident; still it has the effect of causing awards to be somewhat eagerly sought for, and the enhanced value thus given chiefly benefits those who are engaged in the horticultural trade. It is no matter for surprise, therefore, if the private members of the committee are most anxious that no stigma, such as may attach to special interests, should attach to the committee or its awards. That fact was very largely evidenced in conversation at the recent meeting, and it is to be earnestly hoped that the council will give to it the fullest consideration.

The council is no doubt most anxious to stand well in the provinces as with the home public. Trade appointments are apt, even without any valid reason, to engender distrust and jealousy, and were such the case in connection with the Royal Horticultural Society, it would indeed be a misfortune. Cæsar's wife has been of late freely referred to. Her's is a pattern for horticulturists as for others, for it is indeed well in all our doings that these shall be, as far as possible, above suspicion.—A. D.

Cleansing Fruit Trees in Winter.

FRUIT trees are subject to innumerable pests, some of which only temporarily infest them, while others are very persistent in their attacks, and are not destroyed without drastic methods of treatment. One of the commonest troubles with which all fruit cultivators have to contend is the codling moth, or Apple worm (*Carpocapsa pomonella*). An autumn or winter remedy against this grub is that of grease banding the trunks of trees. For this purpose grease-proof paper bands are secured tightly round, and covered with a mixture of cart grease and oil. Another form of banding is tying round some old sacking about 6 inches broad, fastening it in the middle with stout twine. The grubs in descending the trunks will creep under the sacking but cannot go any further than the string, while these ascending the trunk will be arrested in the same way. The sacking may be examined weekly, and the grubs destroyed. In doing so it is best to remove the bands entirely, so that the sacking may be thoroughly examined. Then replace with fresh twine if necessary. Hay bands, which should not be tied very high up the stems of the trees, must also be examined frequently. On the greased paper the grubs of course will stick, if they crawl upon it. The best time for banding is November, when the grubs, which have fallen to the ground with the fruit, are seeking a resting place for the winter in the rough bark of the trunk or branches.

Should this means not be found successful, wash the stems and large branches of the trees with the excellent standard remedy which has been frequently recommended in these pages by various cultivators—namely, half a pound each of caustic soda and crude commercial potash, dissolved in 5 gallons of hot water. This preparation should be sprayed on the trees during the time they are in a dormant state. The "Abol" syringe, or an "Eclair" spraying pump, are the best instruments for distributing insecticides in an effective and economical manner. The spraying should be directed from all sides, so as to reach every possible part. The burning or caustic nature of the solution necessitates that the hands should be protected with a pair of thick gloves.

This preparation will likewise be effective in cleansing trees of American blight, forcing the liquid well into the cracks and crevices where the insects exist. It is advisable, however, to give the worst infested parts a preliminary washing with softsoap and petroleum. Frequently churn during use, so as to keep the mixture thoroughly mixed. The potash and soda solution can also be used as a destroyer of moss and lichen on fruit trees, but it is essential to first scrape off the thickest of the encrustations when wet.

The winter season is also the best time to destroy red spider, which so injuriously affects the foliage of fruit trees in summer. The insects shelter in crevices in the bark, and round the buds and other positions. If the stems and branches are well washed with an insecticide consisting of softsoap, caustic soda, and flowers of sulphur, the pests will be destroyed, and the trees can start clean in spring. In preparing this mixture, 1 lb. of softsoap should be dissolved in 4 gallons of boiling water; then separately boil 3 ozs. of caustic soda and $\frac{1}{2}$ lb. of flowers of sulphur in 2 gallons of water. Stir well, mixing thoroughly, and boil gently for half an hour, adding 4 gallons of water, and it will be ready for use. Spray afterwards with the potash solution. Scale insects should be destroyed in winter either with the soda and potash solution, or brush over the encrusted branches with spirits of wine.

Gooseberry trees which were infested with caterpillars in summer ought now to have the soil beneath them scraped away to the depth of 3 inches and buried deeply away from the trees, replacing that taken away with fresh. Over that spread a layer of soot and lime.

This treatment will effectually prevent the appearance of the moths next season to deposit eggs. The trees are benefited also by having soot or lime dusted over them. It cleanses the wood, and to some extent prevents birds attacking the buds.—E. D. S.

Growing Asparagus.

THERE can be no doubt of the importance and value of Asparagus as a vegetable; but in some soils there is, perhaps, no crop more difficult to establish satisfactorily. In some places it succeeds remarkably well, grows vigorously, and lasts in good condition for many years. As a rule it thrives in gardens situated near the seacoast if the soil is light and sandy; but when of a tenacious character it is totally unfit for the production of good Asparagus, and to attempt its

growth is almost useless without special preparation. To accomplish this will cause much labour in clearing out the soil where it is intended to have the beds, for adding abundance of manure to such heavy soil is one of the greatest mistakes that can be made.

The ground where Asparagus is to be grown should always be well drained; if drainage is deficient the roots perish during winter, but if well drained it is unnecessary to place under the beds clinkers or broken bricks. Before taking out the soil where it is proposed to plant the Asparagus a good fire should be started, if convenient, to burn a portion of the soil as it is taken out, which can again be worked in with advantage amongst the compost intended to be used. Nothing better will be found for this purpose than old potting soil, and it matters little if quantities of crocks remain amongst the soil.

Prunings and material from the rubbish heap should also be burned and mixed with a good quantity of partially decayed leaves; this, with a moderate amount of manure, will be suitable for the beds. Coarse river or sea sand can be advantageously employed according to the lightness of the soil. Road sweepings are excellent for this purpose, as they frequently contain coarse sand or small gravel, leaves, horse droppings, and other manures. The materials should be well mixed and wheeled into the beds; a heavy dressing of hot lime should then be given, and the whole manured so as to thoroughly incorporate the natural soil remaining

underneath with the lime and other mixture. This can be prepared any time during the winter so as to be ready in the spring.

The best time for planting, according to my experience, is when the plants are commencing growth. I secure a stock by sowing seeds in April. Plants can be thus obtained the following spring for beds, or the seedlings can be thinned out to the necessary distance. When growth has commenced lift the plants in small bunches without shaking off the soil. I do not see the advantage of splitting them up and planting single crowns. A line should be drawn and a trench made so that the roots can be spread out and then covered at once, placing about an inch depth of soil above the crowns, and when the planting is completed lightly cover the bed with short manure and decayed leaves. If planted deeply at first the crowns soon, by constant top-dressings, become too deep.

The Asparagus in the garden under my charge has been hitherto planted in beds, but I do not recommend the system. I cannot see any advantage in having it in beds, as much labour is caused in keeping them neat. When in beds, if the plants grow luxuriantly, they not infrequently become too crowded and have not room to thoroughly develop. If planted in rows 18 inches apart and 1 foot or 14 inches from plant to plant, ample space is allowed to work any short manure in with a fork in spring. After the foliage has

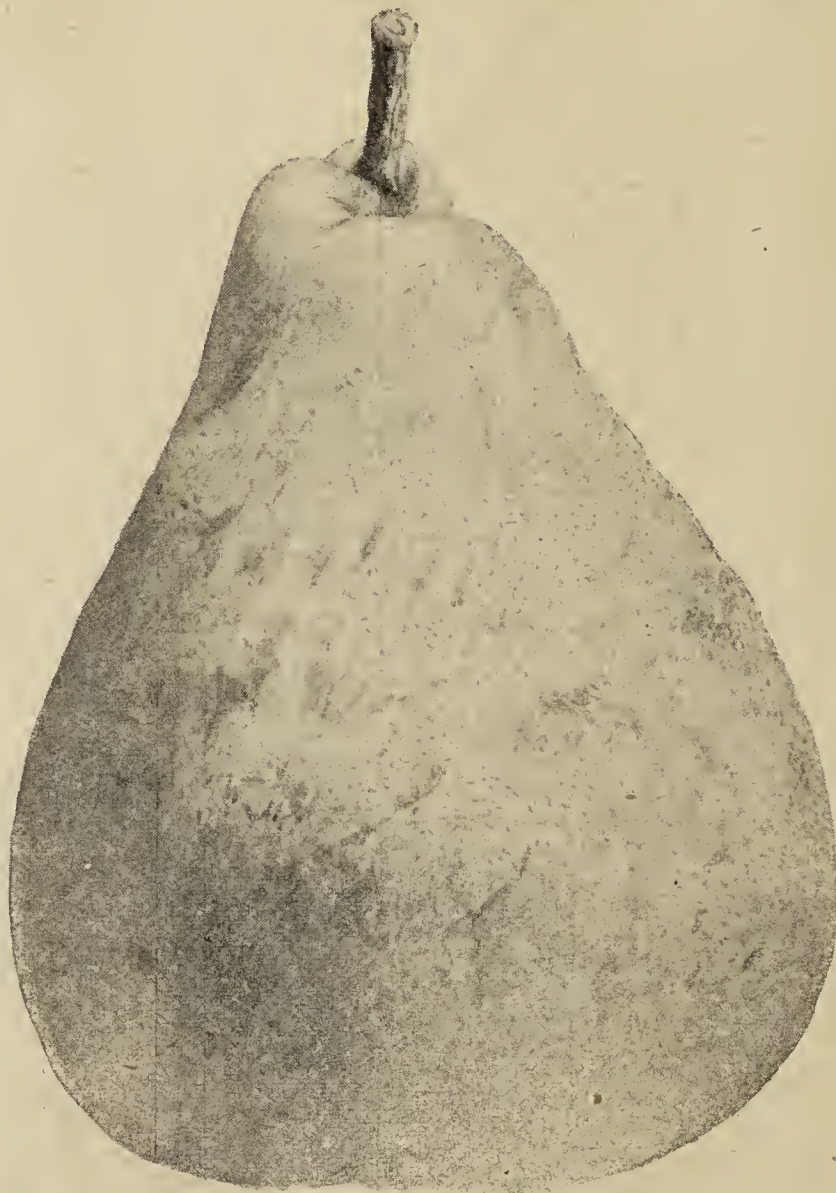


FIG. 138.—PEAR CHARLES ERNEST.

died and been cleared off, the beds should be well covered with fresh manure. Care must be taken that this operation is done before frosty weather sets in; for although Asparagus is hardy when established, many young plants are killed by frost, especially if the ground be wet.

While growing liberal applications of liquid manure, especially during dry weather in summer, are very beneficial. Guano acts quickly if strewn over the beds during showery weather. Asparagus is benefited by slight applications of salt; and if seaweed can be obtained it may be laid over the beds in autumn instead of the manure; no salt is then required. It is often very difficult to obtain seaweed when situated some distance inland; however, salt can be used, but it should be employed carefully, or it will do more harm than good. Salt can be applied in spring as growth commences, which is doubtless the best time. When it is used in quantity during the autumn and winter it tends to keep the soil too wet.—A. N. G.

Two Honored Pears.

THE numbers of Pears that have received special awards from the Royal Horticultural Society during the present season have been considerable, and though some persons have taken exception to some because they were old varieties, there can be no question that they have all been of splendid flavour. On December 4th the Fruit and Vegetable Committee had for inspection *Nouvelle Fulvie*, from Mr. G. Woodward, gardener to Roger Leigh, Esq., Barham Court, Maidstone, for which they recommended a first-class certificate; and *Charles Ernest*, from Messrs. Jas. Veitch & Sons, Ltd., Royal Exotic Nursery, Chelsea, to which an award of merit card was attached.

Nouvelle Fulvie (fig. 139) is an old Pear that is not very commonly grown, notwithstanding its excellent flavour and undoubted value for Christmas and January use. This is probably accounted for by the fact that it is a somewhat uncertain cropper unless it is afforded the protection of a wall. In the "Fruit Manual," Dr. Hogg states that it was raised by M^{ons}. Grégoire, Jodoigne, Belgium, in 1854. The Doctor's description is as follows: "Fruit, medium sized; pyriform. Skin, green, changing to yellow, and thickly dotted all over with russet; when fully exposed, and in a warm climate, it has a red crimson cheek, which is bright when the fruit is at maturity. Eye, half-open, with dry horny segments, rather deeply set. Stalk, about three-quarters of an inch long, occasionally fleshy, and united to the fruit by some fleshy folds. Flesh, fine grained, melting, very juicy, with a rich and exquisite flavour."

Charles Ernest (fig. 138) is a variety of much more recent introduction, but has been previously shown by the same firm. The fruits exhibited on the present occasion were decidedly past their best, but all varieties are practically a month earlier than in normal seasons, and we may therefore expect this to be a Christmas and January variety. The fruits are large, very broad at the base, and tapering somewhat sharply to the stalk, which is sometimes set straight and at others obliquely; it has fleshy folds at the base, and is about an inch in length. The skin is clear yellow with a red flush on the sun side, and numerous spots and patches of cinnamon-coloured russet. Eye small and open, very deeply set in an irregular cavity. Flesh white, smooth, very juicy, and when the fruits are in proper condition of excellent flavour. *Charles Ernest* is a Pear that should become very popular for winter use.

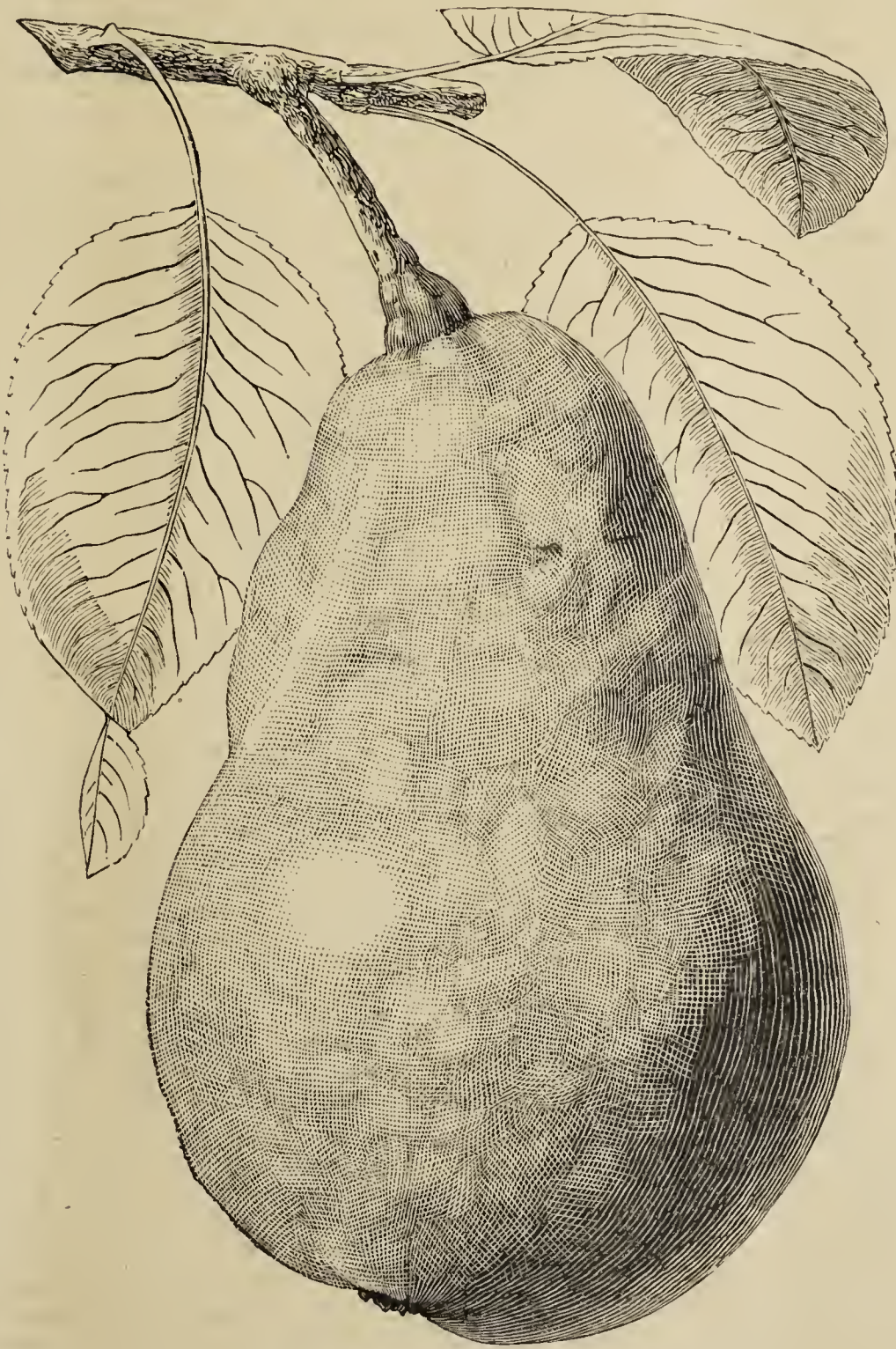


FIG. 139.—PEAR NOUVELLE FULVIE.

National Rose Society.

Annual General Meeting.

THE meeting held in the Hotel Windsor on Thursday, December 6th, under the presidency of Chas. E. Shea, Esq., was an exceptionally large one. The presence of the Rev. H. Honeywood D'Ombrian added interest to the proceedings, and it was evident from the remarks he let fall that his interest in the society and its doings was as keen as ever. Sir Alexander Arbuthnot, Bart., was also present, with the Rev. A. Foster-Melliar, the Rev. F. Page Roberts, the Rev. F. R. Burnside, the Rev. J. H. Pemberton, Dr. Shackleton, and Messrs. G. Gordon, Frank Cant, C. E. Cant, A. W. Paul, A. Turner, G. Mount, K. H. Gifford, J. D. Pawle, A. Prince, G. Moules, C. Jeffries, George Paul, H. P. Landon, J. Bateman, Alex. Dickson, H. Burrell, G. Wyatt, G. W. Cook, B. Cant, O. G. Orpen; Slaughter, Steyning; Cooling, Bath; and Charles Burt Haywood, the new treasurer of the society. From this incomplete list it will readily be seen how very representative was the meeting. No time was wasted in preliminaries, but the notice convening the meeting having been read Mr. Mawley at once proceeded to the annual report, which we give hereunder.

Report of the Committee for the Year 1900.

THE committee, in presenting their report, are pleased to record another year of steady progress in all the branches of the society's work.

The cold and dry weather in May and in the early summer, by checking the growth of Rose plants, had an unfavourable influence upon the Salisbury exhibitor, which proved the smallest southern show that the society has yet held; but at the exhibition which took place at Westminster in conjunction with the Royal Horticultural Society a week later the competition was much more satisfactory. The Crystal Palace Show proved an unusually extensive one, being the largest metropolitan exhibition, with the exception of those in 1892 and 1897, yet held by the society, but owing to the

unfavourable character of the season the general quality of the blooms was below the usual standard. The display of Roses at the Birmingham exhibition was also exceptionally large.

Great credit is due to the local committees for the excellent arrangements made in connection with the southern and northern exhibitions, and especially to Mr. G. Nicholson at Salisbury and to Professor Hillhouse and Mr. C. W. K. Wallis at Birmingham. Indeed, seldom have these arrangements been in all respects as complete and satisfactory. Much credit is also due to Mr. G. C. Selton for his share in the management of the Crystal Palace Show. At all three exhibitions of the society the attendance of visitors was exceptionally good.

At the conferences held at Salisbury and at Birmingham interesting discussions took place upon Miss Jekyll's paper entitled "Suggestions for the Decorative Use of some Garden Roses." The report on these conferences has recently been issued to the members, together with a new and revised edition of the "Hints on Planting Roses." The

committee take this opportunity of expressing their best thanks to Miss Jekyll for her admirable and suggestive paper. The committee report with pleasure that the sale of the society's publications to non-members has greatly exceeded that of any previous year. They likewise regard with satisfaction the result of their efforts to encourage the staging of exhibition blooms in vases, instead of boxes, and also in the increased number of stands of garden Roses at all three exhibitions.

It is, with the deepest regret that they have to record the death in May last of Mr. T. B. Haywood, for seventeen years the society's able and much respected hon. treasurer. They have also to deplore the loss through death of that very generous friend of the society, Mr. F. W. Campion. Then on the eve of the Birmingham Show came the sad news of the death of Mr. Benjamin R. Cant of Colchester, at all times a warm supporter of the society, and one of its original founders. A subscription list has already been started to insure a special prize, to be entitled the "Ben Cant Memorial Prize,"

being offered annually in his memory at one of the society's exhibitions.

Finance.

The committee feel they cannot refer to this question of finance without expressing their keen appreciation of Mr. Charles B. Haywood's kindness in having consented, on the death of his father, to accept the position of hon. treasurer to the society. The usual payment of £105 from the Crystal Palace Company towards the expenses of the metropolitan exhibition has not yet been received, otherwise the financial position of the society would have been in every respect as satisfactory as in former years. In order to prevent the society being placed in a similar unsatisfactory position at any future time, through the loss or delay in payment of any large sum due to it, the committee recommend that a reserve fund be at once set on foot.

There has again been a steady increase in the roll of members, which at the present time number 584, or more than in any preceding year.

Balance-Sheet for the year ending 30th November, 1900.

RECEIPTS		
Balance at bankers, December 1st, 1899	£155	1 2
Subscriptions	390	15 6
Affiliation fees and for medals from affiliated societies	75	5 0
From Wilts. Horticultural Society	50	0 0
From Birmingham Botanical and Horticultural Society	80	0 0
Special prizes	47	15 9
Sale of publications	15	15 8
Advertisements	14	4 6
For proposed Treatise on "How to Grow and Show Tea Roses"	5	0 0

£833 17 7

CHARLES BURT HAYWOOD, *Hon. Treasurer.*

Audited with vouchers { J. D. PAWLE, } *Hon. Auditors.*
and found correct { F. F. WOLLASTON, }

EXPENDITURE.

Printing, stationery, and advertising*	£126	5 0
Postage, telegrams, and sundry expenses	56	16 4
Secretary's travelling expenses to arrange shows	3	16 11
Expenses, Salisbury Show	1	11 0
Ditto Crystal Palace Show	13	1 7
Ditto Birmingham Show	1	9 6
Medals	20	1 6
Ditto for affiliated societies	61	12 0
Contribution to R.H.S. Rose Show	17	0 0
Prizes, Salisbury Show	90	15 0
Ditto Crystal Palace Show	234	15 0
Ditto Birmingham Show	154	15 0
Purchase of plate for prizes	34	3 9
Analysis of Rose Soils	15	0 0
Annual rainfall	1	1 0
Balance at bankers	1	14 0

£833 17 7

* General printing, &c., £67 5s.; printing new catalogue, £51; printing report on constitution of Rose soils, £8.

Proposed Arrangements for 1901.

The southern show of the society will be held at Richmond, Surrey, on Wednesday, June 26th, in conjunction with the Richmond Horticultural Society; the metropolitan exhibition at the Crystal Palace on Saturday, July 6th; and the northern show at Ulverston, in connection with the North Lonsdale Rose Society, on Wednesday, July 17th. Prizes will also be offered by the society at the Rose Show of the Royal Horticultural Society, which will take place at the Drill Hall, Westminster, on Tuesday, July 2nd.

Members' Privileges.

Members subscribing £1 will, as usual, be entitled to two private view and four transferable tickets, the latter admitting at the same time as the general public, while subscribers of 10s. are entitled to one private view and two transferable tickets. Each of these tickets is available for any one of the society's exhibitions. Members joining the society for the first time in 1901 will also receive copies of the following publications: The new edition of the "Official Catalogue of Exhibition and Garden Roses," the revised edition of the "Hints on Planting Roses," the "Report of the Conferences on Pruning and Exhibiting Roses," the "Prize Essay on the Hybridisation of Roses," the "Report on the Constitution of Rose Soils," and the conference report on Miss Jekyll's paper on "Suggestions for the Decorative Use of Some Garden Roses." Members alone are allowed to compete at the shows of the society.

The committee express their best thanks to the donors of special prizes at the society's exhibitions, among which may be mentioned the Right Hon. Lord Calthorpe, the Right Hon. Joseph Chamberlain, M.P., Captain Ramsay, Mr. C. J. Grahame, Mr. F. Dennison, and the late Mr. F. W. Campion. Their thanks are also due to those local secretaries who have in any way assisted the society to maintain its present position, and especially to Mr. G. W. Cook, who has again outdistanced all its other local representatives in inducing new members to join the society. Mr. F. W. Wright, a new local secretary, has also done excellent service at Birmingham.

Immediately on the conclusion of the report Mr. C. B. Haywood, who was enthusiastically received, read the financial statement, and the chairman subsequently said that Mr. Mawley wished to make a few remarks thereon before it was put to the vote of the meeting. The secretary pointed out that on the face of it the balance-sheet did

not seem very satisfactory, but several things had to be considered. For example, the printing item was heavy because of special publications. The most important item, however, was that the Crystal Palace had not yet forwarded the £105 due to the society towards the expenses of the show held last July. Having in view the fact that the payment had been so long deferred, it had been deemed advisable to ascertain where the show could be held in subsequent years should the present arrangement with the Crystal Palace unfortunately collapse. From the statements made there would not appear to be much difficulty in finding another roof on very advantageous terms, but in this relation, of course, nothing was settled; the remarks were called forth in analysing the financial statement, and simply went to prove that the committee was alive to possibilities and ready for any matter that might call for prompt action.

In moving the adoption of the report Mr. Shea was very brief. He considered the general aspect of affairs most satisfactory, and affirmed that it was a matter for congratulation that they could again look back upon a year of steady progress. The work of the National Rose Society was, he said, appreciated by everyone, and the society's shows were looked forward to with the keenest delight. Did anyone want other evidence of the estimation in which the society was held, continued the speaker, they had it in the fact that the society's literature had commanded a greater sale than in any previous season. Mr. Shea made some references to the exhibitions, and adverted to the loss the society had sustained by the death of Mr. T. B. Haywood, Mr. F. W. Campion, Mr. Benjamin R. Cant, and others. In regard to finance the chairman thought that, except for the item referred to by Mr. Mawley, things were very satisfactory. He, however, strongly recommended the immediate institution of a reserve fund to be started by subscriptions and donations from members. He considered that a society doing such excellent work ought to have a reserve fund, and that in every successful year the amount should be augmented from the profits instead of the whole of these being thrown into the prize list, as had hitherto been the case. These suggestions evidently met with the approval of the several business men present. Mr. Cecil E. Cant seconded the adoption of the report, which, on being put to the meeting, was carried unanimously.

The Rev. F. Page Roberts was deputed to propose that "The best thanks of the society be given to the officers and other members of the committee for their services during the year." He said how glad everyone was to see Mr. D'Ombrian, and how much they hoped he

would long be spared. He paid, too, a glowing but thoroughly deserved tribute to Mr. Edward Mawley. Mr. Keppel H. Gifford seconded this, and was profuse in his praises of Mr. Mawley and the committee. Both Mr. D'Ombra and Mr. Mawley replied, the latter maintaining that it was the committee who did the work.

Alterations to By-Laws.

Mr. H. P. Landon proposed, and Mr. G. Mount seconded, the following addition to By-Law 3:—"The committee shall have power to fill any vacancy in the officers of the society, or in the committee which may occur during the currency of any year." The desirability of this was so obvious that it was carried unanimously.

Dr. Shackleton was the proposer and Mr. J. Bateman the seconder of an alteration in By-Law 12, which will henceforth read as follows:—"That affiliated societies have the privilege of offering for competition the medals—*except gold medals*—of the National Rose Society, which medals may be obtained for this purpose at the following charges—viz., silver-gilt medal, 14s.; silver medal, 11s.; and bronze medal, 5s. 6d. None of the medals shall be awarded by an affiliated society for any seedling Rose or for any decoration or vase of flowers. *No medals sent without prepayment.* No affiliated society shall offer more than four of the National Rose Society's medals at any exhibition." Mr. G. W. Cook, who was on the agenda to bring forward an alternative scheme, withdrew this, and spoke strongly in favour of the above, and there was no dissentient when it was put to the vote.

It was proposed by Mr. Geo. Gordon, and seconded by Mr. Geo. Paul, that the following addition be made to regulation 18:—"For four trebles, 2 feet long; for six trebles, 2 feet 9 inches long; for eight trebles, 3 feet 6 inches long." This is another step in the direction of securing uniformity in the sizes of boxes which proposition was first brought forward last year, and made to apply to a few of the more important duly specified classes. The committee now proposes to institute standard sizes and apply them to all classes during the year 1902. This has not yet become law, but is sufficiently close thereto to make it advisable for all members to have their new boxes on the scale published in the society's regulations.

The Rev. A. Foster-Melliar moved that definition 5 be altered to read as follows:—"Size shall imply that the bloom *does not in this respect fall below the standard of the class* then being judged." The proposer made a somewhat humorous speech in support of the alteration, but, notwithstanding the support of Mr. Burrell of Cambridge, it was lost by an overwhelming majority, the consensus of opinion being that it would tend to encouragement of mere size. This was certainly not Mr. Foster-Melliar's idea, as he is beyond doubt a stickler for quality as represented by excellence of colour, form, grace and substance of petal, as well as size. Mr. C. E. Shea, Mr. O. G. Orpen, Mr. G. Paul, and the Rev. J. H. Pemberton, all spoke strongly in opposition to the motion, which received only four supporters.

Election of Committee.

The committee recommended the election of Captain J. Ramsay to be a vice-president of the society, and that Messrs. T. B. Gabriel, K. H. Gifford, W. E. Martin, H. E. Molyneux, Lewis D. Pawle, and Will Taylor, with the Rev. F. Page Roberts, be elected members of the committee for the ensuing year. The scrutineers of the ballot, Messrs. A. Mount and A. Turner, having performed their office, the chairman announced that the persons indicated had been duly elected.

Provincial Exhibitions in 1902.

In relation to the provincial exhibitions for 1902 Mr. Mawley read a letter from the secretary of the Exeter society, stating that his committee would be delighted to welcome the National Rose Society in 1902, and that he would be pleased to commence the necessary arrangements at an early date. This is very satisfactory, and the West of England growers will have an opportunity of showing their calibre on their own ground. A communication was also read from the Helensburgh secretary regarding the holding of the northern exhibition there in 1902, but further information was going to be forwarded after the meeting of the local committee.

After Mr. George Paul had made a few remarks anent the peculiarities of the railway companies in making their charges, Sir Alexander Arbuthnot, Bart., rose to propose a vote of thanks to Mr. Chas. E. Shea for presiding. Sir Alexander's remarks were brief but straight to the point, and conveyed in admirable language a well deserved tribute to the chairman for his management of the meeting. Needless to say, the proposal was carried with acclamation. This brought the meeting to a close.

At 5.30 the annual dinner was held under the chairmanship of George Gordon, Esq., V.M.H., and we understand a most enjoyable evening was spent.



Hardy Fruit Garden.

Cordon Fruit Trees.—This system of growing fruit trees possesses many advantages, and is well adapted for gardens of limited space, especially if a suitable wall is available upon which to train the trees. Walls, however, are not really indispensable, but if they are so situated that they command a good open aspect, and the soil at their base is, or can be made, suitable for fruit, it will be economical to plant and train Apples or Pears upon them. The training of cordons is simple, and a number of varieties can be grown on a restricted space; moreover, the culture and attention required are of an interesting nature, and there is every prospect of good crops of choice fruit.

Vertical and Diagonal Cordons.—The best and most popular form of cordon training is the vertical for high walls, and the diagonal for low walls and espaliers. Single-stemmed cordons for training in either of the above ways may be obtained as one-year-old fruiting size, or as maidens. The older trees will fruit the soonest, but it is interesting for the cultivator to grow the trees from the maiden plants. The treatment for growing both single, vertical, and diagonal cordons is practically the same. In growing from maidens select clean, vigorous, healthy trees. Prune them to half their length, selecting a wood bud. Shorten the roots to uninjured parts, and reduce the tap root considerably.

Apples ought to be on Paradise and Pears on Quince stocks, these being more fibrous rooting, and tend to produce fruitfulness. It must be decided at the time of planting whether the cordons are to be vertical or diagonal. If the latter the plants must be 18 inches apart so that the branches may have a space of not less than a foot between them on the wall. The single vertical cordons may be planted a foot apart as a minimum space, but some varieties will be all the better for 18 inches. The latter trained to stakes in the open should have 18 inches to 2 feet distance between them.

Diagonal cordons to be trained to rails or wires stretched horizontally should have the lines of these 5 feet apart, and not over 6 feet high. The soil must be well prepared by bastard trenching, incorporating some loamy soil and burnt refuse, working a wider space beyond the requirements of the roots. Plant diagonals at an angle of 45°. When the shoots push select one of the strong upper shoots as leader, and train quite straight in the proper direction. The side shoots must be pinched to the third leaf, and to one afterwards as made. Allow the leader to extend. At the winter pruning the stopped side shoots must be pruned back to the best bud nearest the stem. Excess of vigour will be rectified by fruiting, though if this is not so apparent lift and replant, carefully shortening any undesirable long roots, and making the soil firm. The vertically trained cordons will be the more likely to require the lifting process, as the sap rushes to the top faster than in those growing diagonally.

Horizontal Cordons.—This form is more ornamental than useful or profitable. Trees with a single stem and two branches starting horizontally from the top should be planted as an edging to a fruit garden walk. Similar trees may be planted at intervals of 6 or 8 feet, thus forming a line of cordon branches. Horizontal cordons with a single branch may also be planted 6 feet apart, and trained on wires in one direction. When the branch of one has extended to the main stem of another, graft both together in the spring, and thus form a living continuous line of fruitful branches. If maiden, or even older trees are employed for planting single horizontal cordons, insert them obliquely, so as not to cause a sharp bending of the stem, which is not desirable. Rub off all shoots on maiden stems when growth begins to the height of training wire. The leading shoot selected should be trained forward in the same line as the main stem the first summer, gradually depressing it to its position by the time the buds break in spring. Pinch the side shoots in summer to four leaves, and cut them back in winter to a good bud near the stem. This bud will eventually form a fruiting bud.

Cordon Gooseberries.—Gooseberries lend themselves admirably to cordon training on walls or trellises, especially on north walls where the fruit can hang late. In originating the cordons obtain plants one year from the cutting with a clear stem of 6 inches. After planting, which should be for single cordons a foot apart, shorten the stem to 12 inches. The leading shoot pushing in spring secure to a stake or wire. The small laterals which will grow from this new shoot in summer pinch to first leaf and shorten to an inch in autumn. If necessary, shorten the leading shoot in winter to a foot, so as to cause side shoots to be produced, which in summer pinch to four leaves and spur them in to an inch in winter. Cordons may be formed with several branches each a foot apart. Spurs forming naturally retain at full length.

Gridiron Training Apples.—This simple method of training is a useful and profitable method of culture, either for walls, espaliers, or in the open. The trees should be on the Paradise stock, planting them

about 10 feet apart. They are best obtained ready shaped, with branches at equal distances of a foot between them, and of the same length. They ought to have five branches trained upright from two horizontal extensions at the top of a dwarf stem. In good healthy trees the base of the branches will be furnished with fruit buds, and after the trees become established they will grow and bear freely if the simple requirements of stopping side shoots in summer and shortening in winter are adopted, as with other trained trees.

Fruit Forcing.

Peaches and Nectarines.—*Earliest House.*—To have ripe fruit of the standard forcing varieties, such as Hale's Early, Stirling Castle, Dymond, Royal George, and Grosse Mignonne Peaches; Early Rivers, Lord Napier, Stanwick Elruge, and Dryden Nectarines; there must be no further delay in putting on the roof-lights and closing the house. The very early Peaches, such as Alexander, Waterloo, and Early Louise, with Cardinal Nectarine started at the same time will afford fruit a month earlier under the same forcing conditions, indeed they may be grown so as to produce fruit in about thirteen weeks from starting, the buds being then well advanced in swelling, as early forced trees usually are, by what is known as hard forcing.

Trees started at an early date in previous years swell their buds promptly without much excitement from artificial heat, but those forced for the first time are slower in starting into flower. These must not be hurried, and with the buds swelling and advancing for flowering the atmosphere must not be kept nearly so close, as it is important the buds advance steadily and have time to develop flowers perfect in all their parts. When the atmosphere is kept close and too moist the blossoms are drawn and weakly if the temperature is too high; if low little progress is made, and the fructifying organs are stunted and effete. Admit a little air constantly at the top of the house, and above 50° it should be increased correspondingly with the temperature, but not allowing it to decline below 50° in the daytime, sufficient artificial heat being employed for that purpose, and with sun heat an advance may be allowed to 65°, closing for the day before the temperature has receded below 55°. A temperature of 40° to 45° is ample at night, and in mild weather 50°.

When the flowers are advanced so that the anthers are showing cease syringing, but afford a moderate amount of air moisture by damping the borders and paths in the morning and early afternoon. Avoid a stagnant atmosphere at any time, but especially at night with a high temperature. Examine the inside border, making sure that there is no deficiency of moisture. If necessary afford a thorough supply of water or liquid manure. The surface soil is often deceptive, being kept moist by syringing, therefore supply enough to moisten the soil through to the drainage, for surface sprinklings do very little good.

Trees often have very weakly blossoms, and fail to set in consequence of water being given to the tops instead of to the roots. If there be a superfluity of flower buds, remove those on the under sides of the trellis by drawing the hand (gloved) the reverse way of the growths. This will materially assist the swelling of the remaining buds. If there are any traces of aphides, fumigate the house on two or three consecutive evenings before the flowers are much advanced in colour, always before the petals unfold; and the atmosphere must be dry, or the moisture will be condensed on the cooler surface of the flowers, and they will be discoloured or injured.

Second Early Forced House.—If the trees are very early varieties, as Alexander, Waterloo, and Early Louise Peaches, with Cardinal Nectarine, fruit may be had in late April or early in May by starting at the new year. If, on the other hand, the trees are such as Hale's Early, Early Alfred, Dr. Hogg, Rivers' Early York, A Bec, Stirling Castle, Royal George, Dymond, Grosse Mignonne, Crimson Galande, Alexandra Noblesse, and Bellegarde Peaches; Early Rivers, Lord Napier, Goldoni, Stanwick Elruge, Humboldt, Dryden, or Pineapple Nectarines, the fruit will not ripen until May is well advanced and during June. This must be taken into consideration by growers. In either case, and the trees not having been forced before, the house should be closed at once, fire heat only being used to exclude frost, the trees being sprinkled occasionally, or on fine mornings and afternoons, allowing time for them to become fairly dry before night. Keeping the trees constantly dripping with water, especially at night, enfeebles the blossoms, and conduces to wood bud rather than blossom bud development. Do not allow the temperature to exceed 50° in the daytime without full ventilation. Trees previously forced will not need the preparatory process, but start readily at the accustomed time. Supply water or liquid manure to inside borders, and protect outside ones with a few inches thickness of leaves and litter on top to keep them from blowing about.

Trade Catalogues Received.

H. Cannell & Sons, Swanley.—*Golden Seeds.*

C. Platz & Sons, Erfurt.—*Trade Seed List.*

Sutton & Sons, Reading.—*Amateur's Guide in Horticulture.*

Vilmorin, Audrieux & Co., 4, Quai de la Megisserie, Paris.—*Seeds of Trees and Shrubs.*



* All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Chrysanthemum Robert Owen (Wyfold).—It has been decided that this shall be classed with the Japanese incurved for all exhibition purposes, and while the line of distinction between this and the incurved section is not very clear, we think that a flower such as you forwarded would be quite out of place amongst the latter. We congratulate you on the production of such an excellent bloom.

Poinsettias Failing (J. P.).—As the plants were so sturdy and vigorous by being grown outdoors in the summer, we can only suggest that their failure to produce good bracts is the result of the plants being left out too long. When they remain in cold positions until the leaves droop growth ceases, and the roots first become torpid, then shrivel or decay. If you examine the roots of your plants, and they are dead or brown in colour, you may conclude we have either indicated the cause of the failure or you have given them an overdose of liquid manure. We feel confident the roots are not fresh and active, in which case it is impossible that large whorls of brilliant bracts can be produced.

Wireworm in Loam for Vine Border (W. A. A.).—The best thing we know to destroy wireworm is mustard dross, an article to be had from mustard manufacturers. It also has a prejudicial effect on vegetation, therefore must not be used in excessive amount. The turf should be laid a single thickness deep, and about the eighth of an ounce sprinkled on each square yard, and the turves thus treated can be chopped up. The small quantity named has not been found to have any injurious effects. If you have difficulty in procuring mustard dross employ kainit, 2 ozs. per square yard on a single thickness of turves, and if 4 ozs. basic cinder phosphate be added it will be an advantage, then chopping up and mixing. After the border is made up it is well to take the ordinary precaution of inserting some Carrot traps about 2 inches beneath the border surface, so as to attract and capture any remaining wireworms, and thus keep them from attacking the roots.

Persimmon (W. H.).—The Persimmon properly is the Virginian Date Plum (*Diospyros virginiana*), but the term is frequently applied to the Japanese species (*D. Kaki*). The Virginian Persimmon grows 20 to 30 feet in height, and is hardy. The flowers are pale yellow, produced in July, and the fruit is golden yellow; size and form of a common Plum. It grows readily from seed, and is best in the form of a low standard. The Japanese Persimmon, of which there are several varieties, is of lower stature, the tree attaining to a height of 12 to 20 feet. The flowers are whitish green, but inconspicuous. Fruit yellow when ripe, globose, eight-celled, size of small Orange, abounding in yellow, fleshy, edible pulp; it is tolerably pleasant. It is easily raised from seed, and the tree is hardy in the extreme south of England and in the Channel Islands. In other parts of the country it is grown in an orchard house, especially in the southern parts of the country, and in a cool house in the northern. It, however, is seldom met with. It may be grown as a low standard, and succeeds in any good fruit soil.

Grapes for Market—Yield per Acre (A. B. C.).—A great question can be asked on a small card. Some of the largest Grape growing establishments in the vicinity of London are Mr. Joseph Rochford's, Mr. Thomas Rochford's, Mr. Peter Kay's, Mr. J. Sweet's, Mr. Edward Rochford's, Mr. T. Hamilton's, Mr. John Wood's, Mr. E. Bennett's, Mr. B. B. May's, and Mr. P. Ladd's. In addition to these there are other noted growers. Many tons of Grapes also come from Worthing. As to the extent of the culture and weight of Grapes produced annually we have access to no better estimates than those of Mr. W. E. Bear, as published in the Journal of the Royal Agricultural Society last year. They are based on the best information that the diligent author could obtain by visits to the several establishments. Judging from certain precise statements of actual production, corroborated by such evidence as could be gathered from many growers, Mr. Bear concluded that 14 tons per acre is an average yield of Grapes by Vines in full bearing (though he found a record of over 19 tons). Making, however, a liberal allowance for young and failing Vines, 12 tons per acre is taken as the average production of an estimated area of 350 acres of Vines under glass giving a total annual yield of 4200 tons of Grapes; this is nearly 9½ million pounds. If you are thinking of sharing in this industry you will find formidable competitors, and you must be prepared to grow really good Grapes for selling at low prices.

Manure for Tomatoes after French Beans and previously Tomatoes (T. M).—As the French Beans are grown in pots they will have little influence on the soil, hence we conclude you will need to restore what has been previously removed by the Tomatoes. As you cannot procure farmyard manure, and organic matter being an essential for the successful cultivation of Tomatoes, we should use a mixture composed of five parts rapemeal (oil extracted), three parts dissolved bones, and two parts best quality kainit, mixed, and apply half a pound of the mixture per square yard, digging in and taking small spits, so as to mix as much with the soil as possible. The following mixture is also first-rate:—Rapemeal, 4 lbs.; superphosphate, 8 lbs.; muriate of potash, 1 lb.; mix and use 4 ozs. of the mixture per square yard, and point in lightly. This mixture should be supplemented by the judicious application of nitrate of soda after the first trusses of fruit are set.

Prunus myrobalana and P. myrobella (Somerset).—The terms are synonymous and both incorrect, as the proper botanical name of the Cherry or Myrobalan Plum is *Prunus cerasifera* (Cherry bearing). It has "white flowers, nearly solitary, or fasciated on short branches, pedunculate; calyx lobes reflexed; petals obovate-oblong or orbicular. Fruit red, globose, with yellow flesh, and an ovoid, acute stone. Leaves elliptic-obovate, acute, serrulated, glabrous beneath. Branches unarmed; branchlets highly glabrous. Native country uncertain." This excerpt from the "Dictionary of Gardening" may be of service to you in the identification of your tree. We may observe, however, that seedlings grown from seed of the Myrobalan Plum vary, as do other fruit seedlings, both in fruit, in foliage and in habit of trees. We are not therefore surprised your tree has produced fruit of a clear yellow colour, smooth, and about the size of Cherries. There is no question of its being a Cherry or Myrobalan Plum. It is likely the other tree, when it fruits, may be of a similar colour, or it may assume a higher tinge, if not be actually red. In California the Myrobalan Plum is employed as an all-round stock for the Plum, having largely displaced the St. Julien. One thing is certain, that the Bullace is very distinct from the Myrobalan Plum. We are not able to verify the statements as to its being introduced into this country in 1820, which was probably from France, as the Myrobalan Plum was there used as a dwarfing stock for the Plum.

Fungus Mycelium in Vine Border (J. C.).—The mycelial threads appear to be those of the fungus named *Polyporus versicolor*, which certainly attacks the roots of various ligneous plants. It is worst on dry soils, and is often introduced to borders in the turf. The cause in your case is probably dryness, a not uncommon occurrence in the instance of new borders, and the property of fungus mycelium in general is to become so compacted as to resist or throw off rain or water applied that in the case of ordinary soil would permeate and soak through it freely, rendering it thoroughly moist. The roots of the Vines that come into contact with the patches of mycelium 12 to 15 inches wide probably have their cuticular cells broken down by a ferment emitted by the threads of the fungus and in consequence die. This occurs in many other cases. We advise the breaking up of the patches of mycelium and giving a dressing of lime. This we have found to have a good effect in the case of similar patches in fruit borders outside, the breaking up allowing of the free access of water, but it is well not to apply this until the lime has acted for a fortnight or three weeks. We do not think anything further will be required than the lime, which should be best chalk lime air-slaked, using 3 to 4 lbs. per square yard. In case of similar patches appearing break them up with a fork so as to be accessible to liquid, and dress with a solution of Little's soluble phenyle or Jeyes' fluid, a wineglassful to 4 gallons of water. This is preferably best done when the Vines are at rest.

Trees and Shrubs for Bleaky and Smoky District in Lanarkshire (S.).—As you live so far north only the hardiest trees and shrubs would be of any use:—Trees: Canadian Poplar (*Populus canadensis*) and its variety, *P. c. nova*, Abele Poplar (*P. alba*), White Beam Tree (*Pyrus aria*), Sycamore (*Acer pseudo-platanus*), *Mountain Ash or Rowan Tree (*Pyrus aucuparia*) and *Bird Cherry (*Cerasus padus*), *Birch (*Betula alba*), *Laburnum alpina, *Elder (*Sambucus nigra*) and *Golden Elder, *common Lilac (*Syringa vulgaris*) and *white variety. If you wish an evergreen, Black Austrian Pine (*Pinus austriaca*) is the best breakwind tree extant. Shrubs, Evergreen: common Holly (*Ilex aquifolium*) and varieties, *Aucuba japonica* and vars., *Rhamnus alaternus*, *Garrya elliptica*, *Daphne laureola*, *Phillyrea angustifolia*, *P. Vilmosiana*, Double Furze (*Ulex europæus flore-pleno*) and Butcher's Broom (*Ruscus aculeatus*). Deciduous Shrubs: *Daphne Mezereum*, Snowberry (*Symphoricarpos racemosus*), *Lonicera tartarica*, *L. Ledebouri*, *Ribes sanguineum*, *R. aureum*, *Kerria japonica*, *Forsythia viridissima*, *Weigela rosea*, Persian Lilac (*Syringa persica*). Climbers for House: Ivy (*Hedera Helix* and vars.) has no equal as an evergreen, and for covering large spaces the Virginian Creeper (*Ampelopsis hederacea*) is unrivalled, though *Ampelopsis Veitchii* has neater foliage. *Wistaria chinensis* is also suitable for covering a large space. Clematis montana is an excellent climber for a house. Pears for Walls: Jargonelle, Beurré d'Amanlis, Jules d'Airolles, Beurré Hardy, Hacon's Incomparable, Beurré Diel, Beurré Bachelier, Princess, General Todtleben, Beurré d'Anjou, Winter Nelis, Josephine de Malines. If you require greater variety, Clapp's Favourite, Triomphe de Vienne, Beurré Superfin, Louise Bonne de Jersey, Durondeau, Maréchal de Cour, Emile d'Heyst, Doyenné du Comice, Thompson's, Passe Colmar, Glou

Morçeau, and Nec Plus Meuris. The Pears will do on all but the north aspect, which would be better left in Currants, or preferably Morello Cherries could be planted there.

Names of Plants.—We only undertake to name *species* of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (C. N.).—1, *Crataegus crus-galli*, the Cockspur Thorn; 2, *Quercus glandulifera*. (S. T. W.).—1, *Asplenium bulbiferum*; 2, *Adiantum gracillimum*; 3, *Veronica Andersoni variegata*; 4, *V. Traversi*; 5, *Lomaria gibba*; 6, *Polypodium aculeatum*. (B. M.).—1, *Erica gracilis autumnalis*; 2, *Begonia metallica*; 3, *Eranthemum pulchellum*; 4, *Helleborus niger maximus*. (R. C. C.).—1, a poor form of *Cypripedium insigne*; 2, *Odontoglossum grande*.

Covent Garden Market.—December 12th.

TRADE very bad.

Average Wholesale Prices.—Fruit.

	s. d. s. d.		s. d. s. d.
Apples, table, $\frac{1}{2}$ bush. ...	2 0 to 4 6	Melons, house, each ...	0 6 to 2 6
" cooking, bush. ...	1 6 5 0	Oranges, case ...	6 0 15 0
" Californian, case ...	7 6 9 6	Pears, crate ...	3 0 7 0
Chestnuts, bag, from ...	5 0 15 0	" stewing, case of	
Cobnuts, doz. lb., best ...	4 0 5 0	72 to 120 ...	4 6 6 6
Grapes, black ...	0 6 2 6	" Californian, case	4 0 9 0
" white, per lb. ...	1 6 4 6	Pines, St. Michael's, each	3 0 6 0
Lemons, case ...	9 0 16 0	Walnuts, bag ...	4 6 6 0

Average Wholesale Prices.—Vegetables.

	s. d. s. d.		s. d. s. d.
Artichokes, green, doz. ...	1 6 to 2 6	Mushrooms, forced, lb. ...	1 0 to 0 0
" Jerusalem, sieve	1 6 0 0	Mustard and Cress, pmt.	0 2 0 0
Asparagus (Sprue Grass) ...	0 8 0 0	Onions, Dutch, bag ...	4 0 4 6
" Paris Green ...	4 6 5 0	" English, ewt. ...	5 0 0 0
Beans, French, per lb. ...	0 4 0 0	Parsley, doz. bnchs. ...	2 0 0 0
" Jersey, per lb. ...	1 9 0 0	Potatoes, ewt. ...	3 0 7 0
Beet, red, doz. ...	0 6 0 0	Rhubarb, doz. ...	2 6 3 0
Brussels Sprouts, sieve ...	0 6 1 6	Savoy, tally ...	2 0 3 0
Cabbages, tally ...	3 0 5 0	Scotch Kale, per bushel ...	0 9 1 0
Carrots, doz. bnch. ...	2 0 3 0	Seakale, best, doz. ...	18 0 21 0
Cauliflowers, doz. ...	2 0 3 0	" 2nd, doz. ...	6 0 8 0
Celery, bundle ...	1 0 0 0	Shallots, lb. ...	0 2 0 3
Cucumbers, doz. ...	1 6 3 0	Spinach, bush. ...	1 0 1 6
Endive, score ...	1 6 0 0	Tomatoes, English, lb. ...	0 2 0 5
Herbs, bunch ...	0 2 0 0	Turnips, doz. ...	2 0 3 0
Leeks, bunch ...	0 1 1 0	Turnip tops ...	0 9 1 0
Lettuce, doz. French ...	0 9 1 0		

Average Wholesale Prices.—Cut Flowers.

	s. d. s. d.		s. d. s. d.
Asparagus, Fern, bunch ...	1 6 to 2 6	Lilac, white, bunch. ...	4 0 to 6 0
Carnations, 12 blooms ...	1 0 3 0	Lily of the Valley, 12 bun.	6 0 15 0
Cattleyas, doz. ...	10 0 18 0	Maidenhair Fern, dozen	
Chrysanthemums, dozen		bunches ...	4 0 8 0
blooms ...	1 0 3 0	Marguerites, doz. bnchs.	2 0 4 0
Daffodils, doz. ...	15 0 20 0	" Yellow, doz. bnchs.	2 0 4 0
Eucharis, doz. ...	2 6 3 6	Mimosas, bnch. ...	1 0 1 6
Gardenias, doz. ...	3 0 4 0	Odontoglossums ...	6 0 8 0
Geranium, scarlet, doz.		Poinsettias, doz. blooms.	6 0 10 0
bunches ...	6 0 9 0	Roses (indoor), doz. ...	2 0 4 0
Hyacinths, doz. ...	4 0 8 0	" Safrano, doz. ...	1 6 2 0
Lilium lancifolium album	1 6 2 6	" Tea, white, doz. ...	1 0 3 0
" rubrum	1 6 2 6	" Yellow, doz. (Perles)	2 0 4 0
" various ...	2 0 3 0	Smilax, bunch ...	2 0 4 0

Average Wholesale Prices.—Plants in Pots

	s. d. s. d.		s. d. s. d.
Acers, doz. ...	12 0 to 24 0	Foliage plants, var., each	1 0 to 5 0
Arbor Vitæ, var., doz. ...	6 0 36 0	Geraniums, scarlet, doz.	6 0 10 0
Aspidistra, doz. ...	18 0 36 0	" pink, doz. ...	8 0 10 0
Aspidistra, specimen ...	15 0 20 0	Hydrangeas, white, each	2 6 5 0
Azaleas, various, each ...	2 6 5 0	" pink, doz. ...	12 0 15 6
Boronias, doz. ...	20 0 24 0	" paniculata, each	1 0 3 0
Cannas, doz. ...	18 0 0 0	Lilium Harrisii, doz. ...	8 0 18 0
Crotons, doz. ...	18 0 30 0	Lycopodiums, doz. ...	3 0 6 0
Dracæna, var., doz. ...	12 0 30 0	Marguerite Daisy, doz. ...	8 0 10 0
Dracæna, viridis, doz. ...	9 0 18 0	Mignonette, doz. ...	8 0 12 0
Erica, various, doz. ...	8 0 18 0	Myrtles, doz. ...	6 0 9 0
Euonymus, var., doz. ...	6 0 18 0	Palms, in var., each ...	1 0 15 0
Evergreens, var., doz. ...	4 0 18 0	" specimens ...	21 0 63 0
Ferns, var., doz. ...	4 0 18 0	Roses, doz. ...	6 0 18 0
" small, 100 ...	4 0 8 0	Stocks, doz. ...	8 0 12 0
Ficus elastica, each ...	1 6 7 6		

Gardeners' Charitable and Provident Institutions.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—*Secretary*, Mr. G. J. Ingram, 175, Victoria Street, S.W.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—*Secretary*, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

ROYAL GARDENERS' ORPHAN FUND.—*Secretary*, Mr. Brian Wynne, 8, Danes Inn, Strand, London, W.C.



The Labour Question Again.

A RECENT case in the Scarborough County Court, although it ended in a decision favourable to the employer, is a further illustration of the difficulty which the present day farmer has to contend with. A servant engaged himself for board and lodgings and £20 in money to act as waggoner from January 9th to Martinmas, a period of ten and a half months. The man apparently tired of his job or thought he could better himself, and in July, after giving a formal month's notice left his place, and has now sued his employer for the wages due up to the time he left.

It seems that when he first mooted the question, his master after consideration consented that he should leave, but conditionally on his forfeiting £2 of the wages due. Considering that the period still to be served was almost entirely a busy one, and included the harvest month, we think that Mr. Monkman, the employer in question, was behaving in a very liberal manner in offering to rescind the contract on those terms.

The man, however, whether legally advised or not we are not aware, persisted in leaving and claiming the full wage due, evidently being strongly convinced that the law was on his side. That this was not so anyone conversant with the law of master and servant is of course aware, for in contracts at so much per annum between a farmer and a purely agricultural servant the ordinary rule of a month's warning or a month's wages in lieu thereof has no legal effect, and this applies to female servants who are engaged to milk just as it applies to the men. The judge gave a decision entirely favourable to Mr. Monkman, and the man lost a clean £8 by not assenting to his master's terms.

Judge Raikes, in giving judgment, spoke of these contracts as antiquated though still legally binding, and suggested that unwillingness to enter into such long engagements was a potent cause of the scarcity of farm hands and the continuous migration from the country to the towns. We think, however, that if this ancient custom of hiring by the year, "antiquated" though it be, should be done away with and weekly or monthly engagements be substituted, the farmers of Yorkshire and other districts where the custom now prevails will find themselves worse off than ever.

Meanwhile in some parts a gradual change is already in progress. For instance, as Yorkshire and Notts hirings take place at Martinmas, and Lincolnshire at May Day, there is a growing tendency in the districts forming the borders of these counties towards half-yearly contracts. The men having recently been in a position to dictate terms at Martinmas, have refused in considerable numbers to engage themselves for longer than until May, and when May has arrived the masters, anxious to go back to the Martinmas custom as being more advantageous to them, would engage men until Martinmas again, hoping at that time to be able to engage men for a year. Engagements for six months have thus become quite common, and as the servants have been thus able to get two holidays in the year instead of one, whilst the wages have been rapidly rising, it is hardly likely that they will return to the old system as long as circumstances leave the control of matters in their hands.

Judge Raikes at Scarborough made a suggestion that it would be desirable that farmers when hiring their yearly men should make a stipulation that the wage should be divided into five portions, a double portion to be allotted to the quarter containing the harvest period. As long as the law remains as it is, we hardly see the necessity for such a course, though if servants should be enabled to impose on farmers new conditions enabling them to break their engagements prematurely, the latter will have to adopt some such safeguard in self-

defence. But there is another reason why a clause of this kind in an agreement would be beneficial.

It often occurs that a servant through not getting on with the foreman, not being suited with the horses he has to work, or not finding the board to his mind, becomes dissatisfied, or as he terms it, "unsettled," and wishes to leave his employment. Under such circumstances he almost invariably chooses a busy time during which to make his request to be allowed to depart, chiefly because he will then stand a better chance of getting a job elsewhere. The farmer of course may curtly refuse and hold him to his contract, but there are several reasons why he should not do so, the chief being that a surly, dissatisfied man is as bad as a jibbing horse, and if he likes can make his services to be of little real value without giving his master ground for legal action; also, that he may repay his grudge against the master by neglecting or ill-treating the animals in his charge. We have known actual cases where such has been done, with the result that eventually, on the anxious representations of the foreman, the master has been obliged for his own interest to let the recalcitrant servant have his way.

If a servant knew that he would be paid much higher in proportion for harvest or similarly busy periods, he would be far less likely to choose inconvenient times for demanding his liberty at short notice, which, not being legally obliged, the employer need not accede to, but very often does for reasons similar to those we have just been describing.

These yearly contracts, however, are not in every way most favourable to the farmer, for it not infrequently occurs that a servant falls ill, and if his illness be a temporary one, even although recovery be long and tedious, the employer is legally bound to feed and nurse the servant round again—i.e., until the expiration of the contract period, and pay his wages in full at that time, although he may have done little or no work for the money. So long as the servant is not permanently disabled he may claim to stay his year out and get his wages.

Minimising the probability of such cases occurring is the only set-off the farmer has to balance against the disadvantages of short term hirings, and we are sure that they will not give up the old system of annual engagements without an effort to retain it. It is now in considerable danger, but if employers make a determination to engage as many men as possible for yearly terms it will not die out yet awhile.

Work on the Home Farm.

Rain every day, though varied in quantity, has almost put an end to outdoor work for the past week. Root, i.e., Swede, pulling and storing has been impossible, and what little ploughing has been done has proceeded under great discomfort to man and beast.

Conditions have been quite unfit for threshing, and as the weather appears to have been pretty general throughout the country, it is to be hoped that the enforced stoppage of supplies may do a little to strengthen the grain trade.

A little work has been done at the hedges by men who, being at piece work, brave the weather rather than lose time, but it has been a difficult matter to find suitable employment for the day labourers. A wet day now and then may be utilised in cleaning up the premises under cover, but a week is too much to occupy in such a way. The sacks are mostly in use, besides which they need no repairs at present, having been looked over during the wet period in harvest. A few Potato baskets which had lost their bottoms have been repaired with sacking, which will wear as long as the handles, and the poultry houses have been cleaned and well whitewashed.

A supply of paint ready to hand may be used to advantage to paint over the implements which are not in use at this season; gates also which may not now be necessary for present use can also be quickly fetched home and a coat applied to them under cover. For gates, though it is more unsightly, we prefer black varnish to paint, as it is cheaper, turns water well, and is very durable.

Stock are doing very well; we never saw sheep make greater or better progress, and there will be plenty of good mutton on the market when Turnips are all finished. That time, however, is far distant, the open weather being so favourable to food prospects, and it will most probably be May before markets are again overstocked. Cattle are also doing very well, and with a smaller allowance of cake than usual. There is no economy in spending much money in dear cake when Turnips are in plenty and to spare, and farmers must try by economy to recover some of the too expensive cost of their cattle during last winter.

As it is not always the waggoner with the largest allowance of corn whose horses look the best, so those who cake their bullocks with the greatest freedom do not necessarily produce the best cattle. Punctuality in feeding, close attention early and late, and in fact hard work, are great factors in the building up of good beef and mutton.

Beef is a little easier in price, 7s. 6d. per 14 lbs. being hardly procurable, and prospects for Christmas markets are not very bright. Pork is still in good demand, 6s. 6d. per 14 lbs. being readily given for pork, and also for choice bacon pigs.

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Journal of Horticulture.

THURSDAY, DECEMBER 20, 1900.

The Muddle of Varieties.

Need of Reform.

EVER since the hybridist became a power in the land the whole thing has been one great multiplication sum, which appears to increase in magnitude as the years roll on. Every fruit, flower and vegetable that will lend itself to the process of hybridisation and cross fertilisation has been operated on, with the result that old families have been extended, new ones have been introduced, and characters have been changed so greatly that in some cases originality has been almost effaced. When one looks around and sees the creations for which the hybridist is responsible, one can realise to some extent the magnitude of the work, and, as gardeners we have to thank a nature that is so amenable to the skill of human art. If the gardeners of a century ago could return to the scene of their labours and mark the changes that have taken place in this respect since they made their exit, they would doubtless rub their eyes in wonder. They might have been the pioneers of work that has grown far beyond their comprehension; and in the same way may not we, who fancy we have seen the accomplishment of such great things in horticulture, be connected only with a beginning that the gardeners of a century hence will look upon as puny efforts?

But is there not a danger of overdoing this work of introduction if it is not already overdone? Or rather has not the time arrived when some check should be put on it so that we may know that new forms are new indeed, not a slight variation of something that already exists, or perhaps the vaunting of something as new that is really old, though perhaps obscure? Up to now the work has been all on one side. We have given a welcome to anything and everything without questioning its distinctiveness or originality, and any variety that has come out blessed with a name has been accepted as something new. Many disappointments have been felt later on when

During FIFTY-TWO YEARS the "JOURNAL OF HORTICULTURE" has been written by Gardeners for Gardeners, and in its principles, its practice, and its price it still remains the same. One alteration is perhaps, however, necessary. Our modern methods of production have rendered the price old-fashioned, and hence in order to meet the wishes of the present generation of Gardeners the "JOURNAL OF HORTICULTURE" will hereafter be sold for TWOPENCE instead of Threepence.

the novelty has turned out to be nothing but the counterpart of some well-known variety. To put the matter plainly, this sort of thing has gone on until the varieties of fruits, flowers and vegetables are in a state of chaos, and the way to get out of it is by no means clear. The arrival at this condition of affairs has not been sudden or intentional, but on the other hand, it seems to have been a matter of drift, with financial interests perhaps at the bottom of it, and the absence of the power to govern the work, and act as a check on the output of varieties.

There is scarcely any need to particularise. Take popular fruits, garden vegetables, or florists' flowers, and try to find out how many varieties, so called, there are, and having done that, put those together that are so much alike that it is almost impossible to tell the difference, and it will be observed at once what a muddle the thing is in. Similarity in named varieties of plants is such a common thing to-day that we are loth to trust a new introduction, and it is not to be wondered at considering that no generally recognised system of government exists. The reason is simple enough. Half a dozen persons or more are engaged in the introduction of fresh varieties, and have pecuniary interests at stake. One brings out a variety that is new to him, so he gives it the name of some celebrity, or perhaps a friend as a compliment, and sends it out as a novelty. He has no official means of knowing that the same variety is already in cultivation under another name, and so we get two of them and, yea, perhaps half a dozen or more. Keen competition and ignorance of the doings of others engaged in the same work may be largely responsible for the imbroglio which exists, and it is quite reasonable that there may be another cause. I know of no reason why a raiser should not send out a variety that he knows to be already in cultivation, under a fresh name, or, if not the exact thing, something so closely allied to it as to merit no distinction.

To take a case in point, one great characteristic of the Sweet Pea Show at the Crystal Palace was the too much alike varieties. So similar were many of them that when placed side by side even an expert could not tell the difference, and whatever else the Classification Committee may do, I hope it will make a great slaughter here and do away with a large number of synonyms. No one wishes this more than Sweet Pea experts themselves, and this was revealed to me by one of the best known growers in the country. "There are too many," he said, "far too many of the same shade and form, and half the names want cutting out entirely." Quite so, this is the sort of thing that wants doing in many another family besides Sweet Peas, but it is useless without preventive means against recurrence. The world is too full of varieties to have them thrust on us in a happen and chance sort of way, and we want a proper system of registration so that purchasers of new varieties may know that they are new, and not the synonyms of something they have already.

The same deplorable state of things exists amongst vegetables, though, perhaps, it is not noticed to the same extent, and of all subjects the indispensable Potato is the worst. We have our rounds and kidneys, coloured and white, and these are split up again into varieties that have apparently no end. We have slowly drifted into this state of muddle, tacking a name on here and another there till there are considerably more titles than there are distinct varieties. I am continually seeing Potatoes bearing names that I have never heard before, though the tubers are familiar, and considering how many local sorts there are, the difficulty of a better condition of classification is all the greater. If this sort of thing exists now, what will be the condition of affairs in the future, bearing in mind that so-called new sorts are being introduced year by year?

Let every encouragement be given to the work of fertilisation and selection. We cannot have a superabundance of the beautiful and the

useful, but let us have the work carried on under some defined rule, to act as a guide to growers, and to be respected by raisers. We have too much disorder among our cultivated plants, varietal names are handed out far too liberally, and the man who is the most puzzled is the one who tries to find out the system upon which the whole question is conducted. I am afraid it does not exist.—G. H. H.

Gossip.

ALWAYS bright, always cheery; how I do look forward to the advent of the dear old Journal. It is all very well; you professional gardeners may sniff, and say it is much above my head—and so parts of it are, no doubt, but there is also provision made for the unlettered and unlearned; and really often the greatest men write in the simplest style—at any rate, they make themselves the most interesting. This is a specially good number (December 13th), and I have had such a feast. "Home-staying youths have ever homely wit." What a splendid idea to set the canny Scot off on his travels to big London town. When will he get another turn out? He makes such good use of his time and opportunities that it would be worth while to send him off on the Journal's account armed with a big notebook. Like the Scot he is, he is not carried away with enthusiasm; he sees the little weak spots, and takes care that we shall know them too! Faithful are the wounds of a friend!

["W. S., *Wilts*," writes feelingly what he knows of under-manned gardens, where everything is not in apple-pie order. If boys and men could be trained to tidy up as they go along there would be no great accumulations of work—a neglected garden is a sorry sight. Some people would pass a heap of rubbish or big weed twenty times a day and never be moved to effect its removal.

Yes, the big gardens are very interesting; but privately I like to hear of the little ones—one feels more at home there. I, for one, never saw "Good King Henry" grown out of Lincolnshire, and I am taking notes of the early garden "mums." No, I will not have it; it is very very seldom a farmer is a bad gardener. If from press of business he is not an active agent, his wife sees that department is not neglected. The gardens are often quaint and delightful in the extreme, and I claim to know. I do not wonder at the cottagers wanting the judges to linger! the garden was their all, and a very delightful all. Talking of Rose names, I remember our old groom, who would insist on Tin Cherapin and Charles Leafborough. Ah! poor fellow; he is where the flowers are immortal.

We ought to be among the happy folk, for *Lilium candidum* flourishes in our garden. It is an imposing flower, and so much "at home" in the lowliest garden. Late dessert fruits from Salisbury must prove this to have been an exceptional season. I thought we had done well to have a dish of Peas (Yorkshire Hero) November 12th.

Ah, well! the old year has nearly run its course, and it has been a very pleasant and fruitful one. We know not what awaits us in the coming century; we part reluctantly with this. I came to-day across a very happy thought, beautifully expressed by the late Charles Dickens in "The Old Curiosity Shop." The old sexton is talking of the plants on the graves (it is somewhere near the Welsh borders), and he says they never flourish long, and he is glad of it! Why? He takes it as a sign that Time is healing the broken heart, and that the mourner's interest is with the living rather than the dead. Our own time is so short we cannot always grieve, and grief is often so selfish. Once more we twine our Christmas wreaths and light our Yule logs, and read in the glowing firelight happy auguries for the coming year.—THE MISSUS.



Odontoglossum crispum nobilius.

THIS superb variety was first exhibited by Mr. H. Ballantine, gardener to Baron Schröder, in 1885, but it was not until February, 1892, that it received special recognition from the Orchid Committee of the Royal Horticultural Society. In March of the last-named year we illustrated this variety, and we now reproduce the woodcut and accompanying letterpress, in reply to "W. W. Wood's" request for information, for it will be of interest to many other young Orchid growers as well as our correspondent.

"So many handsome varieties of *Odontoglossum crispum* have been introduced from time to time that it is always a matter for surprise when a novelty of exceptionally distinct character makes its appearance amongst the hundreds of imported plants. If all the varieties of this protean species which have received names and certificates could be seen in flower together, side by side, they would present a range of variation highly interesting as a study and attractive as a floral display. Yet even now 'new departures' are occasionally secured, though more rarely, and they are proportionately valued by their fortunate finders or purchasers.

"The variety shown by Baron Schröder from The Dell Gardens, on February 9th last, received the distinctive and appropriate secondary title of 'nobilis,' and of which it was quite as worthy as the *Dendrobium* honoured with the same designation. Though new to the majority who saw it, this could not, however, be claimed as a novelty in the strict sense of the word, for it was exhibited at the Orchid Conference in 1885, when it was much admired; but as it had not flowered from then until the present year no further opportunity had occurred for comparison and testing its qualities. The Orchid Committee soon indicated their opinion of the plant's merit by the award of a first-class certificate.

"As can be judged from the illustration (fig. 140), the flowers are of great size and fine proportions, the sepals and petals very broad, the latter regularly and rather deeply cut at the margin, and the lip beautifully fringed. The ground colour is white, and the exceedingly bold confluent blotches of rich bright brown impart a remarkable character to the flowers. The lip is of a size proportionate to the other parts of the flower, but the spots are smaller, though the colour is rich."

The Resting Season for Orchids.

In most departments under glass there is a possibility of forcing the plants when extra good produce is needed, and to get vegetables, fruit, and other produce much out of season is looked upon as a test of skill. But in the Orchid houses none of this forcing is essential or desirable. There may be, perhaps, a desire on the part of some employers to have *Dendrobiums* of the noble and similar sections at an earlier date than their usual flowering season, but the majority of Orchids must have their proper rest, or the result is not satisfactory;

while in the cooler section forcing is quite impossible. The plants, say of *Masdevallias* or *Odontoglossums*, may grow and look green for a time in extra heat, but of flowers there would be few, and in a very short time the plants would be ruined.

Not that all plants require rest alike at this time of year. They do not all demand dry and cool treatment even. Some rest in a cool house, and some in a warm one, and though the winter season is that when the majority of them rest, some do not, but keep on growing. For instance, take the fine *Disa grandiflora*. As a rule this will now be growing rapidly, and continue to do so all the winter and spring, the flowers being the apex of growth when the plant dies back for another year. To attempt to dry this off then must only end in failure.

But this is only the exception, and the majority of Orchids are quiet now. It is a good time to note as to how the plants have been treated. Some there are, such as *Cattleyas*, of the summer flowering section. To grow them properly, these plants should now be well on the dry side, but if from any cause the pseudo-bulbs have not been properly developed or ripened, it is impossible to keep them so without

injury. They would immediately shrivel badly, and this would assuredly be followed by weak growth in spring. The drying then must be with judgment; those plants and species that require it, and are in a condition of health to stand it, are benefited by it. On the other hand, improperly developed specimens or unsuitable species must be humoured according to individual likes and dislikes.

Even varieties of species show this sensibility or otherwise to distress on being dried at the roots. For years I grew a variety of *Coelogyne cristata* that would finish and shrivel without any great reduction in the water supply. It was a long-bulbed late-flowering form in the way of the Chatsworth variety, while, as is well known, some of the round-bulbed forms suffer a good deal of drought with comparative impunity. It may be taken as an axiom that any degree of dryness that causes this plant to shrivel is beyond what is necessary, and is therefore harmful.

In these pseudo-bulbous sorts we have a kind of guide to go by, but when we come to the more sensitive leaved species, such as the *Vandas*, *Saccolabiums*

and *Phalænopses*, we are on more dangerous ground. The roots of these are guides to a great extent, showing by their green or cloudy, soft or hard, points, whether they are seeking for moisture or not. But an experienced cultivator will not be guided by these alone. He will watch the foliage narrowly, will feel it occasionally even when he is sure that water is not needed, and his practised eye and hand will tell him at once whether the plants would be benefited or not by watering. This sort of thing cannot be taught by word of mouth. Experience is necessary, but it is surprising how quickly persons interested get the knack of it. The plants are the teachers.

Coming to the temperatures, these must of course be arranged according to the habitats of the plants. But even here the same thing holds good. A deciduous *Dendrobium* will not be seriously incommoded if while the growth is inactive the plants are in a temperature of from 35° to 38° for instance. I have known them to stand frosts. But this would not do for some other species that like equally as much heat in the growing season, and are also deciduous. *Thunias*, for example, or even *Calanthes*. The cooler in reason the houses are kept the less need there will be for fumigating and cleaning during the winter months, but both these aids to culture are at times necessary in the very best arranged and choicest collections.—H. R. R.



FIG. 140.—*ODONTOGLOSSUM CRISPUM NOBILIUS*.

Cherries and Plums in Pots.

IN a most interesting book, bearing the date 1653, entitled "A Treatise of Fruit Trees," by R. A. Austen, the author is at great pains to prove why fruit should be grown. Many of his reasons are such as can hardly be read to polite ears of two and a half centuries later, but one of the very numerous "Arguments of the Dignity of Fruit Trees and Art of Planting" appeals to most of us strongly, especially with Cherry orchards. "It is pleasure to the Eare to heare the sweet notes and tunes of singing Birds, whose company a man shall be sure to have in an Orchard, which is more pleasant there, than elsewhere, because of other concurrent pleasures there." Perhaps in those days the birds had not acquired such a taste for fruit.

Birds and Buds.

I believe that not so very many years ago starlings did not touch Cherries; now, if it were not for the orchard house, we should have very few ripe Cherries at Sawbridgeworth. Directly the first tinge of red appears there is a rush on the part of the birds: rooks, starlings, thrushes, and others make away with the fruit as fast as they can, and apparently without any regard for their digestions. An orchard house is the only safeguard against them. With double doors, the inner of half-inch mesh wire-netting, and with the ventilators wired over with the same, we can ripen crops of such Cherries as it is impossible to grow outside. When ripe they will hang for three weeks or more on the trees, secure from feathered depredators.

Dimensions of an Ideal Orchard House.

The most convenient orchard house is a span-roof 24 feet wide, 4½ feet high at the eaves, and 12 feet to the ridge. Ventilators 18 inches wide, hinged at the bottom, run round the sides; the top ventilators are 3 feet wide by 15 inches, 7½ feet apart, on alternate sides of the ridge. We used to fruit our Cherries in a smaller house, 14 feet wide and 9 feet to the ridge. This scarcely allowed sufficient head room for the large trees, many of them fifteen years old. Certainly they seem grateful for the increased breathing space. As soon as their crops are finished the trees are taken out of the house and plunged nearly up to the pot-rims in a border outside. The reason for plunging is twofold. First, the earth which envelops them keeps the pots and their contents moist and renders the labour of watering less heavy; and secondly, the somewhat top-heavy trees are thus in no danger of being blown over. Water must be given to the trees during dry weather, and occasional good syringing helps to keep them clean and healthy.

Soil for Repotting.

In October the trees should again be brought into the orchard house for repotting, before which process they must be under cover for a time, so that the earth in the pots should not be sodden. This also applies to the earth to be used for repotting, a good loam with which is mixed rotten manure in the proportion of one load in two, and also broken up mortar rubble, a barrowload to a load. In repotting the outer soil, filled with fibrous rootlets, is scraped away, leaving a ball of earth containing the larger roots; the tree is replaced in the pot, and new soil rammed in firmly and evenly nearly up to the rim. The surface is at the same level round the trunk as before. Thorough repotting need only be done alternate years. In intermediate years the outer soil can be removed nearly down to the bottom of the pot and replaced by fresh without taking out the tree. A good drainage, very necessary with Cherries, is provided for by a layer of crocks at the bottom of the pot.

Winter Working.

In repotting the tree must not be moved into too large a pot. An 11-inch pot is ample for a three-year-old tree, which may be given one size larger at each repotting if necessary; an 18-inch pot will contain the largest tree. When this operation is finished the trees are stood as closely together as possible in single rows in the house, in one end of which is heaped sufficient Barley straw to pack round and over the pots, making a layer of about a foot deep when there is severe frost, and the trees are snug for the winter. Water must be given until the leaves are all fallen. From about the middle of November to the end of December the trees will require none at all. If January be mild they should have some water again, and from then onwards occasionally when necessary. Towards the end of February they must be pruned, an operation rendered quite unnecessary in some cases where the older trees in full bearing make no new shoots. The last year's growths must be cut back to about five eyes; with very strong shoots, or in the case of strong growers, eight to ten eyes may be left. Water will now be wanted about once a week.

Arranging the Trees.

The pruning finished, the house should be set out—i.e., the trees placed in their permanent positions for the summer, and this should be done symmetrically and carefully, as it makes all the difference in the appearance of the house. A centre border 5½ feet wide takes two rows of trees; a path 3 feet wide runs round it, leaving side borders 5½ feet wide. The floor of the house is firm and solid, never being stirred, and the path is rammed gravel and clay. A thin layer of fine cinders over the surface of the borders gives them a neat appearance, and is kept raked and clean. The pots may be plunged in the borders up to about 3 inches of their rims, a bed of large cinders being placed in the bottom of each hole to allow the water to drain efficiently. The trees should be grouped with regard to the colour of their fruit. A good smoking with tobacco paper now will lessen the number of aphides hereafter, the trees being syringed thoroughly the next morning.

A Time of Beauty.

About the middle of March the trees are a mass of white blossom, and are wonderfully beautiful; this gives place to dinginess for a time when the blooms are dead. The calyx remains round the swelling fruit for a long time, and must be removed, as also the scales at the base of the fruit stalks, which, although they fall off eventually, persist until the fruit is nearly developed if suffered to do so, and harbour insects, &c. The thinning of the fruits should be done when stoning is finished, and all those fruits which are not going to swell can be detected. Ample room must be allowed to each berry, so that the fruits shall not be overcrowded when ripe. The bunches will have ultimately from six to sixteen or twenty fruits.

Ventilation and Watering.

During flowering all the ventilation possible must be given, except when there are cutting winds; a single hot-water pipe running round the house will keep out the frost if necessary. Water will not be required in large quantity, sufficient being given to prevent the earth from becoming over-dry. When the foliage is coming out, and from then onward, water must be given more frequently according to the weather. The amount of water the individual trees require may be easily ascertained by tapping the pot, which will give quite a bell-like note if the earth be dry. When watering the borders and paths should be thoroughly damped down to insure moisture in the air. The trees must be syringed morning and evening until the fruit begins to colour, after which syringing should be discontinued, or the fruit will crack.—(Paper read by Mr. H. SOMERS RIVERS before the Royal Horticultural Society.)

(To be concluded.)

Certificated Plants.—No. 3.

PERMIT me at the outset to make one or two corrections in the first paragraph of my last communication, and also supply an addition or two. In line 17, Charles Lidyard should read Lidgard. He was, I think, the host of the Albion Tavern in the Albion Road at Hammersmith. He raised in the early fifties a blue edged Cineraria named Brilliant, which had a great reputation in its day. He was one of the principal censors at the meetings of the National Floricultural Society, and greatly esteemed as a judge of florists' flowers. When well stricken in years he would go all the way to Alnwick to judge florists' flowers. In the last line but two, it will be obvious to many, Samuel Brown is a misprint for Bromie. I used to meet him at the Chrysanthemum shows at Liverpool, where his services were in request as judge. How few, probably, are aware that the ashes of this grand old "mummer" lie in Nunhead Cemetery underneath a massive tomb, raised by his many friends to his memory, and on the forefront of which is sculptured an incurved Chrysanthemum. That other notable Temple gardener, Joseph Dale, may be mentioned in this relation.

The list of certificated Begonias comprises 220 species and varieties, and one may well hesitate to deal with such a vast array in anything like chronological order. They comprise forms of the B. Rex section; the fibrous-rooted, the tuberous-rooted, and not a few hybrids. We are taken back to 1864, when, in March of that year, William Earley (not Early) was gardener at Digswell, Welwyn, and was experimenting with some of the winter flowering section and raised digswelliensis. It was almost the first Begonia to receive an award, and the very first among the flowering forms to do so, and it became widely cultivated for some years. The Begonia recalls the name of Colonel Trevor Clarke and his hybrid weltoniensis, raised at Welton Park, Daventry, which received a certificate of merit in October, 1868. This was "a rosy flowered hybrid from the white flowered B. Dregei, fertilised

with pollen from the orange flowered *B. Sutherlandi*." Few plants have attained to such popularity as this useful *Begonia*; a few years ago it might have been seen in almost every garden, and it is too good for decorative purposes to be allowed to die out. The name of Col. Clarke is also associated with Moonlight, a white flowered kind which received a certificate in 1876 when exhibited from Chiswick. This is a charming winter flowering hybrid, which, it would seem, never found its way into commerce, and was lately rescued from comparative oblivion by Mr. H. J. Jones, of the Ryecroft Nursery, Lewisham, who has shown it in very fine character during the present year.

B. boliviensis, certificated in May, 1867, was the first of Messrs. Veitch & Sons' introductions. It was sent home from Bolivia by Richard Pearce in 1864, and when that frail-looking plant reached the Exotic Nurseries at Chelsea, who among us for a moment imagined it would become the progenitor of such a numerous race of a character altogether beyond the bounds of anticipation? John Seden was quick to see that it might become the parent of new forms, and from this, crossed with a species, came in 1870 *B. Sedeni*; and then onwards to 1880 some twenty others, a few awarded certificates of merit, but everyone a prophesy of illimitable progression. Then John Laing and Henry Cannell took the new tuberous-rooted type in hand, and varieties showing advances appeared with unusual rapidity; John Laing obtained his first *Begonia* certificate of merit with *Daviesi superba* in 1881, a double-flowered form of the hybrid *B. Daviesi*, and Henry Cannell his in March, 1884, with *B. Carrierei*. The earlier certificates of merit awarded to varieties of the tuberous-rooted *Begonias* appear to have been given to double types, and during the latter part of the eighties and during the first half of the nineties large numbers of awards were made to new varieties.

Nor must the fine glaucous hairy-foliaged *B. Frœbelli* be forgotten; it obtained a first-class certificate in August, 1875, and its pollen has been used upon itself with excellent effect by raisers. As it is known, this species does not ally itself readily with any other, though there are those who assert they have obtained distinct crosses from it. More of a winter-flowering character than is shared by the descendants of *B. boliviensis*, *B. Frœbelli* has been found very useful as blooming successionally to the foregoing.

B. Socotrana, introduced by Messrs. Veitch & Sons in 1880, and awarded a certificate of merit in 1881, has in the hands of John Heal produced some very fine hybrids, one of which appropriately bears his name, and another the name of his late wife. *Adonis*, *Eusign*, *Julius*, *Success*, *Sylvia*, *Winter Gem* (fig. 141), *Winter Cheer*, and *Perfection* are from *Socotrana* crossed with tuberous varieties, and the value of their progeny was seen in the splendid display made by Messrs. Veitch and Sons at the meeting of the Royal Horticultural Society on November 20th. *Venus*, a brilliant coloured form, is one of the finest of recent developments.

No survey of the *Begonias* can be complete without some reference to the work of the French florists, and especially that of M. Victor Lemoine. *Triomphe de Nancy*, certificated in 1891; *Gloire de Sceaux*, *Gloire de Lorraine*, and *Triomphe de Lorraine*, in 1893, are all valuable plants for winter flowering; *Gloire de Lorraine* is now so universally cultivated, and so invaluable as a flowering plant, that it may remain popular for half a century to come. The Gunnersbury House sport from it—Mrs. Leopold de Rothschild—forms an excellent companion to it. They can lay claim to being ideal *Begonias*. The

new white sport, *Caledonia*, has to vindicate its character as a white variety during the coming season. Some persons think the award of merit was too hastily given a year ago.

In the hands of Messrs. Sutton & Sons of Reading the well-known *B. semperflorens* has undergone considerable transition, and they have given to flower gardens a most useful race of bedding forms, such as *Princess Beatrice*, *Afterglow*, and fine selections of various colours. For winter blooming in pots, *Crimson Gem*, *Duchess of Edinburgh*, *Reading Snowflake*, and *Duchess of York*, can lay great claim to the attention of gardeners. They flower throughout the autumn and winter, and afford a summer service of bloom in the open. That the glorious *B. corallina* should not at any time since its introduction from Brazil in 1875 have received recognition from the Floral Committee of the R.H.S. seems inexplicable. It is a plant possessing a majestic beauty.

Time was when some of the *Begonias* were grown into fine specimens, such as *B. pinnata*, *B. serrulata*, and *B. tetrandra*, but their culture of late has become circumscribed, and with the exception of *B. serrulata*, the flowers of which possess a most agreeable fragrance, the others are only rarely seen. But *B. megastigma*, introduced in 1873, *B. elatior* a year later, and *B. heterophylla* in 1887, represent a trio of most useful species, highly fragrant, in two cases at least, and very free of blossom. When well cultivated they can scarcely be surpassed for decorative purposes.

The *Bouvardias* have received valuable accessions during the last twenty years. As far back as 1872 a rosy form of the white *B. longiflora* named *flammea* was awarded a certificate of merit when shown by Messrs. E. G. Henderson and Son, who occupied for some years previously a nursery in the Wellington Road, St. John's Wood, before the site was merged into Lord's Cricket Ground. In 1881 the double white *Alfred Neuner* was also certificated, followed by *Dazzler*, *President Cleveland*, *Hogarth fl.-pl.*, *Mrs. Robert Green*, *Purity* and *Humboldti grandiflora*. *Bouvardias* are not only very free in blooming, but they are continuous also, and were they fragrant they would probably be even more fully appreciated. *Humboldti* and *jasminiflora* are the only two possessing this quality.

Few plants have a higher character for beauty than the Brazilian *Bougainvillea glabra*, which was introduced in 1851, and certificated ten years afterwards when exhibited by the late Mr. John Daniels, at that time gardener at Swyncombe Park, Henley-on-Thames. Mr. Daniels also grew *B. speciosa*; it

flourished inside one of his plant houses, where the specimen covered some 400 feet of glass, with every terminal spray hanging festoon-like. *B. speciosa superba* was regarded as an improvement both in the size and colour of the blossoms.

The Queensland *B. spectabilis* was also certificated, and *B. splendens*, which does not appear to be a recognised species among the botanists. *B. Sanderiana*, certificated in 1894, has smaller leaves and bracts than *B. glabra*, but the latter are much darker in tint. Between these two comes *B. Cypheri*, probably a form of *B. speciosa*, of free growth, and of a bright rosy colour. As Mr. Cypher of Cheltenham sometimes shows the three in the same collection of plants, he thus recognises them as distinct from each other. In the cool show house of the Birmingham Botanical Society's Gardens at Edgbaston *Bougainvillea glabra* does remarkably well trained along the inside of the roof, and during the month of July sup lies a spectacle of glowing colour and wondrous floral beauty.—R. DEAN.



FIG. 141.—BEGONIA WINTER GEM.



Hints on Planting Roses.

UNDER the above title a committee of the National Rose Society has published a small pamphlet that will be of the greatest value to those inexperienced in the details of planting. The excellent authorities who have compiled the book do not tolerate any haphazard methods of procedure, but give complete instructions, which, if intelligently followed, will insure the veriest tyro planting his Roses successfully. In addition to the planting notes, selections of Roses for various purposes are given. The book has been written, says the preface, "solely for the instruction of that numerous class who wish to grow Roses, but do not know how to set about doing so, or what varieties it would be best for them in the first instance to cultivate." The admirable illustration (fig. 142) of the depth at which Roses should be planted was taken in Mr. Mawley's Rose garden at Berkhamsted, and to this gentleman we are indebted for permission to reproduce it. The price of the booklet is 7d., post free, and it may be obtained from the Rev. H. Honeywood D'Ombra, Westwell Vicarage, Ashford, Kent, or from Mr. Edward Mawley, Rosebank, Berkhamsted.

New Roses.

I DO not now propose to write about the Roses that have been out, but of those which we expect to see in 1901. We may be in the dark as to most of them, and especially is this the case with the foreign flowers. There was a time when this was well nigh our only source of supply, but anyone who examines the catalogue of the National Rose Society will see how few have been permanently added to our catalogue, and consequently how shy our professional growers are of saying much about those which have not been freely shown.

There was a fixed idea not many years ago that it would be useless to try to raise seedling Roses to any extent in this country, and especially was this the case with regard to Tea varieties. We rejoiced in one bright star—*Devoniensis*, raised over half a century ago in Devonshire. It is still beautiful and much admired, while its climbing sport raised forty-two years ago, and as vigorous in its growth as *Devoniensis* is weak, forms an admirable climber for walls or houses. This notion has, however, been dispelled. Every year new British raised Roses are brought forward and receive the highest award which they can possibly obtain—the gold medal of the National Rose Society. But still the French raisers are at work, and though many of the lights of former days have passed away from us, and we no longer receive Roses bearing the honoured names of Margottin, Lacharme, and Verdier, others have risen up to fill their places, though they will find it difficult to attain to such positions as their predecessors.

I do not think that there is now any name to conjure with amongst the French raisers. We still have a Guillot at Lyons who maintains the honour of the house as far as Tea Roses are concerned, but the other raisers I have named seemed to have left none to carry on their work. Nabonnand has announced several, and we are indebted to him for many decorative Roses, and he still seems to be adding to their number. I have nothing to say as to the character of the forthcoming French Roses, and judging from the experience of the last two or three years we had better not raise our expectations too high. Coming to home-raised Roses we, however, stand on surer ground.

The Newtownards, Waltham Cross, and Cheshunt firms have given us so many good Roses in times past, that we may look with confidence on their announcements. Messrs. Alex. Dicksons & Sons propose to send out the following:—

Duchess of Portland (H.T.).—A Rose of great beauty; colour pale sulphur yellow, with a greenish tinge occasionally. The blooms are large, full, and of perfect symmetry; petals very smooth, circular, and of great substance; growth excellent, and of free flowering habit. This Rose was awarded the gold medal of N.R.S. for the best seedling Rose on July 19th at Birmingham. It is apparently a Rose in the same style as *Kaiserin Augusta Victoria*, and is likely to be popular.

Lady Moyra Beauclerc (H.T.).—This Rose was exhibited at the Crystal Palace last year, and was awarded a card of commendation, being exhibited in the class for new seedling Roses. The colour is madder-rose.

Mildred Grant.—This truly magnificent Rose seems to be the finest ever sent out by this firm. I have not seen it, but those who have have spoken to me very highly of its merits; its colour is ivory-white, with an occasional flush of peach. It is another gold medal Rose, and seems to be destined to hold a very prominent place in the future.

Mamie (H.T.).—This Rose, which has been exhibited under the name of Mrs. Conway Jones, is described as a Rose of good form, high centre, stout petals, and vigorous habit. Its colour is carmine rose, tinged with yellow at base of petals.

Messrs. William Paul & Son, of Waltham Cross, announce three new Tea Roses.

Alexandra.—This was exhibited by the raisers at the Royal Botanic Society's Fête, and was admired by H.R.H. the Prince of Wales, who requested that it might be named after H.R.H. the Princess. It is pale buff in colour, with orange-yellow centre, shaded with apricot and bronze.

Corallina.—This obtained an award of merit from the R.H.S. Its colour is deep rosy crimson; it has large petals, and is particularly beautiful in the bud state, and is a free autumn bloomer.

Sulphurea.—A bright sulphur yellow Tea Rose, very distinct and striking.

Messrs. Paul & Son, of Cheshunt, have lately given their attention more to decorative than exhibition Roses, believing that they are yearly becoming more popular. They announce for 1900 and 1901 the following:—

Una.—A cross between the Dog Rose and one of the Dijon Teas; it has been frequently shown, and is likely to be very valuable as a Rose for hedges or arches. In the bud state it is a clear buff yellow, but when expanded it is nearly white.

The three following Roses are all seedlings from Turner's Crimson Rambler crossed with Tea *Beauté Inconstante*.

The Lion.—A single Rose of rambling habit, somewhat in the style of Carmine Pillar, but of a rich crimson colour, very beautiful, bright. It blooms a fortnight later than Carmine Pillar.

Purple East.—A very vigorous growing Rose, which will require considerable space for its development.

The Wallflower.—A Rose which, from its habit of growth, is peculiarly adapted to wall culture; it blooms from the base to the tips of its shoots; they are very attractive; colour lighter and softer than Crimson Rambler, while the flowers are much larger.

J. B. M. Camm.—This hybrid Bourbon is a summer flowering Rose of great merit; it is a seedling from Madame Gabriel Luizet and Mrs. Paul; a pale salmon pink Rose of good habit.

Messrs. B. R. Cant & Son announce a Tea Rose: *Mrs. B. R. Cant*. This is of peculiar merit; it is essentially a garden Rose, outside deep rose, the inner silvery rose suffused with yellow at the base; the flowers of medium size.

It will thus be seen that there are novelties for the lovers of all classes of Roses, and we shall look with some anxiety to our exhibitions during the ensuing season.—D., Deal.

Deep Planting.

A POINT in Rose planting, which I believe to be of the utmost importance, is the depth at which the roots are laid out. It is desirable for all budded dwarfs, and necessary for those on Manetti, that the union of scion and stock should be beneath the surface, that the Rose may form roots for itself; but, with this proviso, my advice would be, Plant as shallow as you can.

A good rule to remember in the transplanting of all trees and shrubs is not to plant the tree deeper than it has been hitherto. And as dwarf Roses are budded at the nurseries not more than half an inch below the surface, and frequently above it, I believe that to plant so deeply as to bring this junction even 3 inches below the surface is always hurtful and frequently fatal.

I have witnessed during the past week the lifting of some Brier cutting Roses which were put in as fine plants this time last year. They proved a great failure, some actually dying, while the remainder just lived, and that was all, though old-established plants in the same bed with the same treatment did remarkably well. On lifting the cause of failure was, in my estimation, plain. The union of stock and Rose was about 3 inches more or less in each case below the surface, and the roots had not been "planted" but "buried."

Sometimes we get dwarfs sent us which have been budded too high, the union being 2 or 3 inches above the roots. If on Manetti I should consider such a plant worthless. A Rose on a long leg of Manetti could only be planted horizontally, and is practically of no use. If on the Brier, and it be determined to try it, I would not attempt to cover the union of Rose and stock, but plant the roots at a proper depth and let it take its chance. It may do well, though it has not as good an opportunity as it would have had if budded lower.

In planting Roses separately, or filling up gaps, it must be remembered that the freshly disturbed soil will sink, especially if the hole made be deep or much manure has been added, and that the plant will sink with the soil; an allowance of half an inch at least should be made for this. In a general way I should consider 3 inches to be deep enough for any Rose roots; and indeed I have always found that, provided they are deep enough to be well out of the way of the hoe, the roots of Roses which are well cared for cannot be too near the surface.—R. W.

Anemone ranunculoides.

WE have now so many Anemones in our gardens from other lands that the various species native to our own country are in danger of being neglected by even those who do not think any the less of a plant because it grows as a wilding in our British Isles. Among these native Anemones and their varieties few are so little grown as *A. ranunculoides*, a modest little yellow flowered species. It is seldom met with in gardens where hardy flowers are prized. This is not surprising, as it does not often appear in nurserymen's catalogues, whence so many draw information about flowers they can grow. Nor is it often mentioned in the horticultural press, so eagerly read by our keenest gardeners—amateur or professional—who are continually on the search for good flowers they should secure. One does, it is true, sometimes meet with brief notes from a few who have failed to grow it and who are seeking for guidance in its cultivation. The experience of these is, as may be expected, not very flattering to the plant as a garden flower.

The *Ranunculus Anemone* is not, however, at all a troublesome plant to grow, and its failure generally results from its not having become sufficiently established before the time it naturally goes to rest, or to its being planted too late before winter sets in. In the former case its tubers get dried or do not acquire sufficient hold of the soil: while in the latter it is uplifted by the frost and its roots destroyed. Some think that the soil in which it is tried is the cause of failure, but one finds that it will often grow in exactly the soil in which it is said not to succeed. Its proper position is surely indicated by that in which it is found in a wild state, where it grows in woods. In these it is shaded in the height of summer by the trees, but these are not in full foliage when the plants come into bloom in March and April. There, too, they have the benefit of an annual mulch in winter of the fallen leaves, which, as well as the herbage in which this Windflower often grows, preserve it from the utmost severity of the weather. Yet some expect a plant which has these advantages in our own climate to flourish in a bare border, where it is exposed in summer to drought and sun, and is in winter deprived of its natural protection! Little wonder is it that there are so many failures with this native plant. I grow it in a peaty soil in a place where it gets little sun all the year, but where the foliage of dwarf plants, and in winter their dead leaves form a protection to it. It gets little wind, and opens yearly a number of its pretty flowers. The rock or the wild garden is the place for this Windflower, as there its wants can be better studied than in the border among the flowers usually found there.

A picture of a single flower of this *Anemone* gives a poor idea of its attractions, even if accompanied with a representation of the leaf. Before me is a coloured drawing, excellently done, but only a travesty of what may be seen in the garden in its season, when above a carpet of finely cut green leaves rise many little bright yellow flowers. It is hard to say whether one prefers the type, with its deeper, or the variety *pallida*, with its pretty paler hues. Either is worth growing, and one has confidence in putting in a plea on behalf of this simple English flower. Simple may be its beauty, but its simplicity is one of its highest charms.—S. ARNOTT.

Spring Gardening.

I AM desirous of saying a few words upon spring gardening, and I will divide my subject into four classes—first, shrubs; second, annuals; third, herbaceous plants; and, lastly, bulbs. I first mention some varieties of shrubs I think suitable, and of which a stock can be procured at any respectable nurseryman's. Amongst the tree varieties of Ivy Silver Queen is most effective; Gold-blotched and *Rægneriana* are very fine. There are two very pretty scarlet-berried plants—viz. *Skimmias oblata* and *japonica*. *Euonymus japonica* variegata and *radicans* variegata are useful plants, and also Gold and Silver Queen Hollies. The Cupressus tribe affords good varieties, such as *glauca* and *minima viridis*. The best golden variety is

undisputably *Lawsoniana lutea*, as it retains its beautiful golden hue throughout the winter months, the absence of that enduring quality being only too common amongst the golden Conifers. I should also select from the Junipers *chinensis aurea*, *hispanica*, and *excelsa striata*. *Retinosporas* are, from their graceful and compact habit of growth, very useful for spring gardens, and I should choose from them *plumosa aurea* (a very beautiful plant), *squarrosa*, and *ericoides*. I should also recommend *Thuopsis dolabrata*, *lævigata*, and *Standishi*; amongst Yews *elegantissima*, *pyramidalis* variegata, and the Golden Irish; in green varieties *epacrioides* and *japonica*; Box *minima*, *argentea nova*, and *chinensis*. The *Berberis*, a graceful type of shrubs, gives us *Hookeri*, *japonica*, and *Fortunei*. Yuccas are very effective in the centre of shrubs, and *plicata*, *recurva*, and *stricta* are hardy, cheap, and remain a long time of a manageable size.

I now come to the hardy annuals, a class within the reach of the humblest cultivator, and suitable for the smallest garden. The following, which are of easy cultivation, will be found effective, especially when judiciously arranged as to colour and height:—*Silene pendula compacta*, pink and also white; *Myosotis sylvatica*, *sylvatica alba*, *azorica*,

and *palustris*, the last being the most valued in the South of England; *Limnanthes Douglassi*, yellow; *Saponaria calabrica*, white and also pink; and for edging *Nemophila insignis*, beautiful blue. The *Nemophila* forms a charming edging to the other annuals. In addition to the annuals I have already named I would recommend a few biennials, such as the Brompton Stocks and the red and Belvoir Castle dwarf yellow Wallflowers.

I will now deal with the third division—viz., herbaceous plants, such as *Ajuga reptans*, *Arabis lurida* variegata and *albida*, *Aubrietia græca* and variegata, *Iberis gibraltarica*, *Primulas* in both single and double varieties, *Polyanthuses*, *Saxifrages*, *Daisies*, useful and pretty; *Victoria*, white, dwarf red, large-striped, and *aucubæfolia* being good, the last especially for edging; and *Dactylis glomerata* variegata is a most useful Grass. I must also draw attention to those most useful spring bedders, the *Violas* and *Pansies*, of which varieties conspicuous for their beauty and free blooming propensities must be chosen.

The last division is that most esteemed and brilliant tribe, the bulbs, which comprise the most beautiful flowers that adorn the spring parterre, the showy Tulip, the stately Hyacinth and Narcissus, and

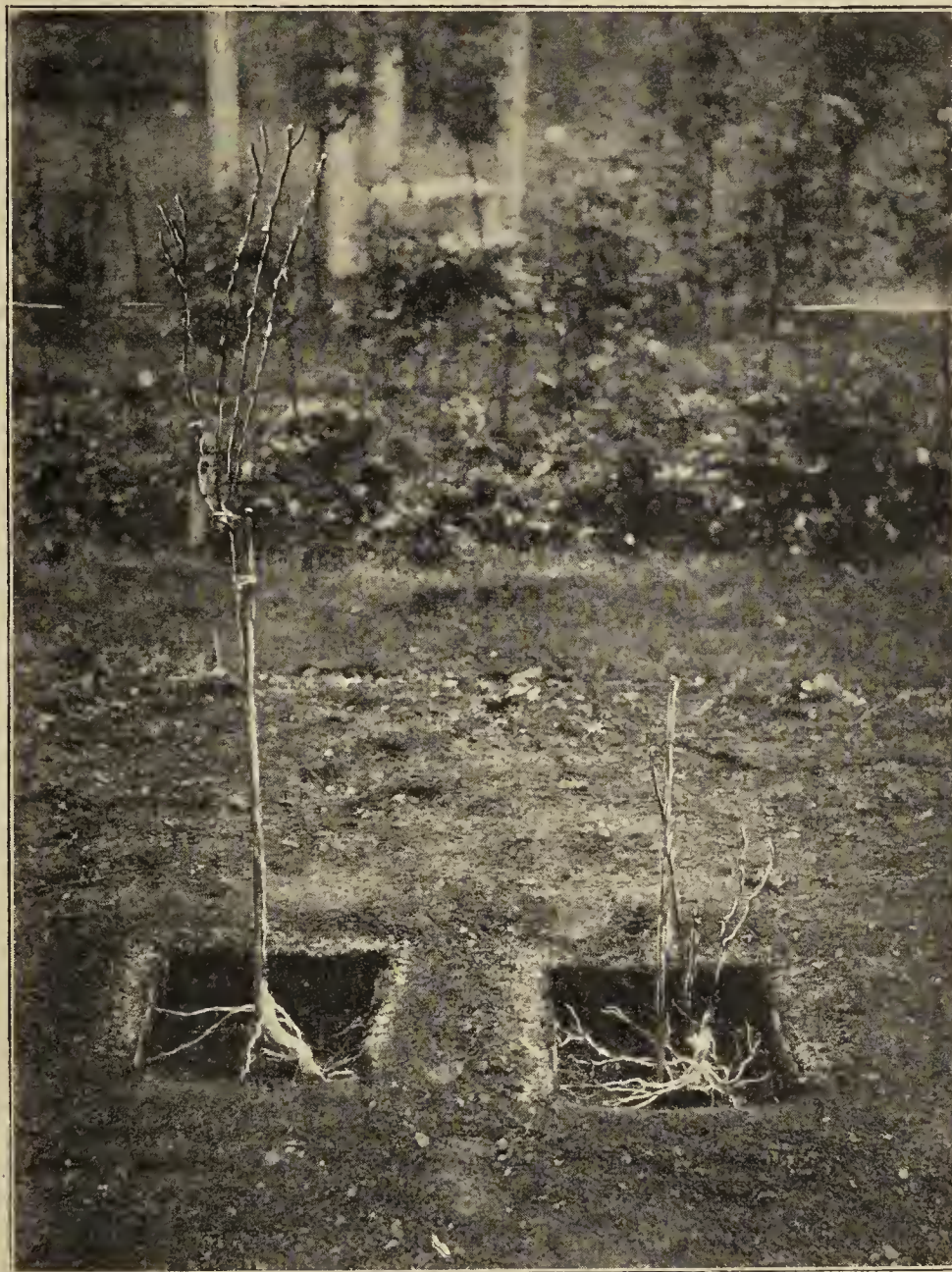


FIG. 142.—PLANTING ROSES.

the Crocus being most used. There are also the several varieties of Scillas, Anemones, Jonquils, Snowdrops, and Ranunculuses.

I will now describe a bed that I saw last spring at an establishment where spring gardening is much fostered, as it affords a useful hint on arrangement. It was a circle of 20 feet wide, and the centre plant was a splendid specimen of *Retinospora plumosa* 2 feet high. The first circle which surrounded it was composed of *Cupressus minima glauca*. Between each plant was a double scarlet Van Thol Tulip. Next came dark blue Hyacinths, followed by a circle of scarlet ones. Then came Silver Queen Ivy, with a groundwork of single Van Thol Tulips. Between this line and the centre the bed was covered thickly with *Myosotis palustris* in beautiful bloom. Next outside came Charles Dickens Hyacinth, porcelain, followed by Sultan's Favourite, rose, surrounded by a row of white Hyacinths. The next circle was *Euonymus radicans variegata*, alternately with single Van Thol Tulips, carpeted with Golden Thyme. Following were separate circles of Mauve Queen Viola, *Ajuga reptans*, Golden Bedder Pansy, and *Saponaria calabrica*. The outer line was composed of the Aucuba-leaved Daisy, the whole forming as charming a combination of spring gardening as I have ever had the pleasure of seeing.

Rock gardening, where carefully and tastefully carried out, also affords much pleasure, and the rockery is never more attractive than when furnished with flowers in spring and early summer. Stones arranged in a good depth of soil, and the interstices planted with Arabises, Aubrietias, Saxifrages, Iberises, hardy Primulas, Gentians, dwarf Phloxes, and other plants that may be at hand, present a bright and novel feature. The two first named flowers cover the surface of many a square yard of stone in the rock garden at Kew and other places, and the broad masses of white and lilac purple are extremely beautiful.—FLORA.

Lonely Winter Caterpillars.

THE story is told of a certain lecturer, well known for his ability in working upon the imagination and the feelings of his audience, that he brought into one of his lectures a powerful description of the sufferings of a broomstick. He told his hearers how the unfortunate broomstick was forgotten one winter's night and left exposed out of doors to the wind and rain of the season. So touching was the narrative that a sympathetic thrill went through the listeners, and some of the ladies were affected to tears. This may or may not be true, but we might work up an impressive description of the painful experiences that some caterpillars have to undergo through the winter months. A broomstick has no feeling, but a caterpillar has, in fact it possesses more sensibility than the older naturalists supposed; modern scientists allow that it has nerves, though the nervous system is of a singular construction. Now there are several species of butterflies and moths where it is the nature of the caterpillars to hibernate. Hatched in the autumn, they are not full grown till the spring or early summer. Some of them are found about our gardens, where occasionally we kill them, by chance or by intention.

But as to loneliness—well, we have amongst the winter caterpillars a few species that are of gregarious habit; some at least have companionship. We have a familiar instance in the rather common species, the browntail moth, where the caterpillars form a snug abode of several apartments of silk and bits of twig on a Hawthorn branch, or it may be on some fruit tree. There they abide contentedly from autumn to spring, repairing the walls now and then if need arise. All they have to dread is a very wet winter, which is apt to kill them by a fungoid malady.

Others there are whose winter life is solitary; they do not unite for warmth and protection. Here again there is a variation of habit. Some of them hibernate upon the surface of the ground, or near it, and they feed occasionally on grasses or low herbage during mild weather. But with many species no food is taken while hibernation lasts, the caterpillars remaining fixed upon branches and twigs, or else they hide within nooks or tree trunks, even creep into sheds sometimes, and not unfrequently repose among the edges of garden borders. Such a life is necessarily solitary, for should there be several caterpillars upon a branch not far distant from each other, they hold no communication, their range of vision being much limited by their simple triangular eyes. Probably they feel no friendly desire to shake claws! That they do not all sleep the winter through appears from the fact that some move a little occasionally.

We cannot choose, I think, a better sample of a hardy winter caterpillar than that of the Gooseberry or Currant moth (*Abraxas grossulariata*), common everywhere, even in town gardens which

contain the bushes upon which it feeds. I have seen them about London suburbs, quite dingy with soot, when they were commencing to attack the young leaves of spring. One peculiarity of this species is that caterpillar and moth have a marked resemblance, both being spotted with orange or yellow and black upon a dull white ground colour. The new brood emerges towards the end of August; the caterpillars feed but a short time and then hibernate. Gardeners generally take no heed of them in the autumn, though that is a good time to remove from the bushes all that can be found, and during the winter any benumbed sleepers that are seen should be destroyed. Such measures would greatly benefit the bushes in April, when they often suffer from the ravages of this and other caterpillars. It is not unusual for all of them to hibernate on the branches, some scatter about, creeping into empty flower pots, amongst stones, and all sorts of places. Mostly, the caterpillars that remain where they had been feeding cover themselves singly with a leaf, fastened by silken threads. Not unfrequently, before the winter is over, the leaves fall through rough weather; perhaps the caterpillar too, or it may be he still hangs on, braving the winds, rain, or snow if he can, till a more genial season arrives.

Most of us, I suppose, would conjecture that to hibernating caterpillars a hard winter would be worse than a mild one, such does not appear to be the fact. Caterpillars may be frozen till they actually chink like pebbles when they are thrown into a jar, yet afterwards revive and grow to maturity. But a quantity of rain is apt to produce upon a caterpillar's skin a fungoid growth, which is frequently fatal. Also in the chrysalis stage many insects are killed by an excess of moisture though a little is beneficial. Amongst the caterpillars that brave the winter unprotected, holding tightly to a twig or branch, are several of those belonging to the tribe of the Thorn moths. There is nothing thorny about the winged insects, which are remarkable for their partiality to light, in consequence of which they are often victims to the gas jets of our streets and houses. Probably the name was given because most of the caterpillars exhibit humps or protuberances. Some species that were very common round the metropolis seem to be scarcer these recent years. One of these is the August Thorn (*Ennomos angularia*), its caterpillar has seven warts or humps, and feeds on Lilac, Elm, Birch, and various trees in autumn till half-grown, then again in spring. That of the Scalloped Oak, or *Crocallis linguaria*, is seldom seen on the Oak, usually its food is Honeysuckle, occasionally Apple or Pear, but it is not abundant enough to be injurious. It illustrates Nature's mimicry, as in colour and form it nearly resembles a bit of twig.

About midsummer, and through July, we occasionally notice about gardens the large pale moth called the Swallowtail, *Uropteryx sambucata*, which floats along deliberately, but can quicken its speed should it be in danger of being caught. Its caterpillar winters not only upon the Elder, but also on several fruit trees, and it will eat such low-growing plants as the Forget-me-not. When it is possible this prefers a partial shelter from the weather to an exposed position, seeks out a crevice in the bark or a crack in some paling. It varies a good deal as to colour, being usually brownish with pale yellow stripes; several of the segments are humped, and this also has a twiggy appearance. During June it is full-fed, and makes a hammock amongst the leaves, wherein the chrysalis state is entered. Caterpillars of some species, again, seek the shelter of evergreens during their hibernation; thus the discovery of the caterpillar of *Boarmia perfumaria* amongst Ivy in autumn led to the supposition this was its food, but it feeds upon garden Roses, also upon Birch, Plum, and Willow, getting from the last its English name of "Willow Beauty," which at first seems hardly applicable to the moth. Careful inspection, however, shows a very elegant arrangement of lines and markings upon the wings. So much does the caterpillar resemble a grey twig that we are likely to overlook one unless it happens to move.

Another looper caterpillar that hibernates while young is that of the handsome large emerald moth; it reposes upon the twigs of Birch. A big brown moth, which is possessor of the name of the Old Lady (*Mania maura*), is apt to surprise people by flying off the wall of a shed or summerhouse when somebody enters. It comes from a caterpillar, curiously marked, with a rather leech-like body, which feeds on fruit trees, but hides amongst grass or herbage in winter, climbing again as soon as the leaves expand. Its relative, smaller and still more abundant, the Goth (M. typica), deposits eggs on Pear and Plum trees chiefly, and occasionally when a person is picking fruit in August he sees a leaf with a company of small caterpillars lying side by side, and eating half through as they advance. Quitting the trees, they descend to the ground for the winter, hide where they can, and conclude their career by devouring all sorts of plants, preferring the succulent. Then the too-abundant caterpillar of the garden tiger moth, well clothed with hairs, braves the winter's cold or damp, waiting for spring to regale on vegetables. Other solitary caterpillars, which feed underground or within plants and trees during the winter, we cannot now discuss.—ENTOMOLOGIST.

NOTES & NOTICES

Recent Weather in London.—Changeable weather has again prevailed in the metropolis. On several mornings frosts have been perceptible on the grass. On Monday and Tuesday very light showers fell in some localities; it was dull and inclined to be foggy at the time of going to press on Wednesday.

Weather in the North.—Wet and generally squally weather has again marked the past week. On the 13th there were a few watery gleams of sunshine. Sunday and Monday were on the whole fair; rain fell on the following night, but Tuesday morning gave promise of improvement in the gloomy, cheerless track of about four months' almost continuous rain.—B. D., *S. Perthshire*.

National Dahlia Society.—At a meeting of the committee of the above society, held on Tuesday, it was decided to hold the annual meeting on January 8th, 1901. Members of the society should, therefore, keep the date free. Full particulars of the business will be announced in due course.

List of Seeds at Kew Gardens.—We have to acknowledge the receipt of a list of seeds of hardy herbaceous annual and perennial plants and of hardy trees and shrubs which, for the most part, have ripened at Kew during the year 1900. These seeds are not sold to the general public, but are available for exchange with colonial, Indian, and foreign botanic gardens, as well as with regular correspondents of Kew. No application, except from remote colonial possessions, can be entertained after the end of March.

In the Markets.—Vegetables and fruit are still abundant and cheap. Cauliflower, Savoy, Cabbages, Turnips, Carrots, Spinach, Turnip-tops, Parsley, and Brussels Sprouts are all plentiful. There are a good many Custard Apples in the market at 6d. each, and a few Avocado Pears are still to be had, as well as a very few Persimmons. Pine Apples are exceptionally cheap, some selling as low as 1s., and good sound fruit at 1s. 6d. to 2s. Grapes are still very plentiful and remarkably cheap.

The Retirement of Mr. Chas. Whitehead.—The retirement of Mr. Chas. Whitehead from the position of technical adviser to the Board of Agriculture has led to a reconsideration of the means by which the board obtains technical advice on questions relating to agricultural botany and economic zoology, and it has now been arranged that the scientific and expert assistance required by the board in connection with these subjects will be furnished respectively by the Royal Botanic Gardens, Kew, and by the Natural History Departments, South Kensington.

Birmingham Chrysanthemum Society.—On the 16th inst. the Birmingham and Midland Counties Chrysanthemum, Fruit, and Floricultural Society held its annual dinner, an average number of the members and friends being in attendance. Mr. W. B. Latham presided, with Mr. John Pope as vice-chairman. The chairman, in submitting the customary toasts, expatiated upon the merits of the chief exhibits, as well as in regard to the status of the society's financial position, which was so far satisfactory to declare it was—with the additional "guarantee fund" (which was inaugurated this year for the first time by the committee and some of the principal annual subscribers)—sufficiently encouraging to induce the committee to offer increased prizes for the next exhibition. Additional stimulus was also afforded by the fact that a few of the principal prizetakers at the recent show generously allowed their names to be added to the guarantee fund, and he trusted that the example would be followed by others. Mr. Walter Jones responded. Mr. John Hughes, the secretary, animated with the desire to maintain the prestige of the society's shows, suggested that, with the view of celebrating the inauguration of the twentieth century, special subscriptions should be secured for the purpose of providing prize cups for certain sections of the exhibits, and to be called "The New Century Challenge Cups." Mr. W. H. Dyer, in toasting "The Exhibitors," paid high tribute to the excellence of the groups of Chrysanthemum plants arranged for effect. The various toasts and speeches were well punctuated by songs and recitations.

The Gardeners' Royal Benevolent Institution.—We are informed that Lord Llangattock, The Hendre, Monmouth, will preside at the sixty-second anniversary dinner of the Gardeners' Royal Benevolent Institution at the Hôtel Métropole on May 22nd.

Gardens in Winter.—In the southern part of Lincolnshire during the past few days hundreds of bees have been seen out in the bright sunshine in the middle of the day. The season is so extraordinarily mild here that spring flowers are blooming in profusion, and thrushes and other warblers may be heard singing as gaily as if it were the middle of September. In an open garden attached to Three Gates House, Knowle, there is quite an assortment of Roses. Specimens of the Maréchal Niel, Gloire de Dijon, Madame Lambard, and Mrs. W. J. Grant varieties are all well developed and rich in perfume.

Hessle Gardeners' Society.—The above society held its fortnightly meeting in the Hessle Parish School. There was a record attendance, over which Mr. Blair of Hessle Cottage Homes presided. The essayist for the evening was Mr. Allsop, gardener to Lord Hotham, North Dalton, whose subject was "The Cultivation of the Grape Vine." Mr. Allsop brought forward many historical facts connected with the Vine in these islands, and dealt exhaustively with its culture from the time of planting until the fruit was brought to perfection. A good discussion followed, many of the members expressing their great satisfaction for the highly instructive nature of the essay. Votes of thanks to the essayist and chairman terminated a highly instructive and interesting evening.—J. D.

The Growers' Association.—Under this title a company is being formed in Dublin with the object of establishing a more direct channel of communication between the producers and consumers of farm and garden produce than exists at the present time. It has long been notorious that the growers of fruits and vegetables in the neighbourhood of Dublin never receive for them anything approaching the prices which the public have to pay for such produce—even after making reasonable allowance for middlemen's profits. The disparity on this score is particularly pronounced in the case of fruit. The present company is being formed with the object of bringing about a direct connection between the producers of such produce and the consumers, and that there is room for it cannot be gainsaid. The movement has met with enthusiastic support among a number of very influential people both in the city and various parts of the country, and, properly worked, the dépôt, which is about to be established, should prove an unqualified success, and be productive of great advantage to those directly interested. Full particulars regarding the association can be obtained from the Secretary, Mr. H. P. Moxham, 36, College Green, Dublin.—("Farmers' Gazette.")

Reading and District Gardeners' Mutual Improvement Society.—"Vegetable Culture" was the title of a most interesting paper read by Mr. J. Gibson, The Gardens, Danesfield, Marlow, before an exceedingly large attendance of members of the Reading and District Gardeners' Mutual Improvement Association on Monday evening last. The subject was dealt with both from the "kitchen" and exhibitors' point of view. The varieties touched upon were Potatoes, Peas, Beans, Brassicas, Onions, Celery, Leeks, Parsnips, Beets, Carrots, and Tomatoes. The paper was not only of the most practical character, but the magnificent vegetables staged by Mr. Gibson demonstrated that his culture was of the highest order. The collection consisted of Sutton's Selected Ailsa Craig Onion, Snowball Turnip, Tender and True Parsnip, Pine-apple Beet, Tender and True Climbing Bean, New Red Intermediate Carrot, Arctic Green Kale, Dwarf Gem Sprouts, Perfection Savoy, The Lyon Leek, Lockie's Perfection Cucumber, and Polegate Tomato. A discussion followed, which at times became very animated, those taking part being Messrs. Stanton, Chamberlain, Wilson, Barnes, Exler, Neve, Davidson, Fry, W. Smith, Cretchley, Powell, and D. Dore. Mr. F. Lever, The Gardens, Hillside, gained the association's certificate of cultural merit for a grand batch of Primulas of the stellata and obconica types; whilst Mr. George Smith of Cintra Lodge Gardens showed some splendid spikes of Calanthes, and Mr. R. Chamberlain, Cressingham Gardens, a few typical specimens of New Red Intermediate Carrot. A hearty vote of thanks was accorded to Mr. Gibson for his paper, in proposing which the president (Mr. C. B. Stevens) referred to the necessity of young gardeners making themselves not only acquainted with the work under glass, but to give every attention to the learning of the routine of a kitchen garden. Two new members were elected.

Society of Engineers.—The forty-seventh annual general meeting of the Society of Engineers was held on December 10th at the rooms of the society, 17, Victoria Street, Westminster. The chair was occupied by Mr. Charles Mason, vice-president. The following gentlemen were duly elected by ballot as the council and officers for 1901—viz.: As president, Mr. Charles Mason; as vice-presidents, Messrs. Percy Griffith, James Patten Barber, and David Butler Butler; as ordinary members of council, Messrs. Joseph Bernays, G. A. Pryce Cuxson, W. H. Holttm, R. St. George Moore, Henry Sherley-Price, Nicholas J. West, Joseph W. Wilson, and Maurice Wilson; as hon. sec. and treasurer, Mr. George Burt; as hon. auditor, Mr. Samuel Wood, F.C.A.

Dublin Root Exhibition.—The annual root display under the auspices of the Royal Dublin Society was held on Tuesday last and two following days at Ball's Bridge. The weather was ideal, a complete absence of rain. Potatoes, despite the prevalence of disease, looked a remarkably fine lot of tubers. The maincrop varieties were much in evidence, and if spraying was more generally adopted the fears of a Potato failure would be practically minimised. Carrots were also good. The same held true of Swedes—a finer lot I have never seen; but Mangolds were unquestionably weak. The Foxford cottagers, a district under the supervision of the old Congested Districts Board, had shown marked advance in cultural skill, but mere grossness should not be the level aimed at, as the prize dishes of Potatoes were unduly large. The same is true of other items. As usual, trade exhibits formed a feature. Messrs. Sutton, of Reading, were well to the fore with various types of agricultural farm produce, and Messrs. Webb & Sons, Stourbridge, had a neatly arranged stand of their products. Messrs. Hogg & Robertson, Mary Street, had an extensive display. Their Garton cereals were in great variety, whilst their glass cases of the grass seeds, as improved by Gartons, were the objects of attention. Champion the Second is a Potato likely to be required in the near future. It is a tuber with smooth skin, medium size, and free from depressions, likewise a disease resister. —A. O'N.

Birmingham Gardeners' Association.—An unusually well attended meeting of the members was convened on Monday night, the 10th inst., anticipatory of the presence of Mr. William Hales, Curator of the Physic Gardens, Chelsea, to read a paper entitled "The Royal Gardens, Kew," illustrated with lantern slides. The essayist was introduced by Mr. W. B. Latham, Curator of the Botanical Gardens, Edgbaston, who presided, and remarked that he had a peculiar interest and pleasure in so doing, from the fact that Mr. Hales a few years ago was a student under him in the Botanical Gardens, afterwards a probationer at Kew for about four years, and subsequently was appointed as Curator of the Physic Gardens, Chelsea. Also whilst at Birmingham Mr. Hales was a member of the Gardeners' Mutual Improvement Society, and a student of botany under Mr. J. W. Oliver, lecturer on Botany at the Municipal Technical School, Birmingham. As an old "Kewite," he (the Chairman) felt impressed with the comparative advantages presented to the students at Kew at the present day over those upwards of a quarter of a century ago. Mr. Hales, in commencing the reading of his paper, remarked that in one lecture the treatment of the several subjects must necessarily be of a cursory nature. Photographs of the chief glass structures at Kew and their contents were thrown upon the screen, and the features of their contents lucidly explained. The museums and other objects of similar interest, including the celebrated North Gallery, were also interestingly defined. One of the most interesting objects thrown upon the screen was a photograph of the ancient specimen of the Monkey Puzzle (*Araucaria imbricata*) in its last stage of decay, and supported by wooden props. It had recently died and been removed from its centenarian site. It was said to be the first specimen of its species introduced into Europe from Valdivia by the late Mr. Archibald Menzies, surgeon and naturalist to Vancouver's voyage to North America in 1788. Mr. Menzies, when dining at the table of the Governor of Valdivia, had the seeds offered him at dessert. On being told that they were those of a great Pine of the Andes, he took some away in his pocket, and sowed them in a pot on board ship. He tended the young plants carefully during the remainder of the voyage, giving them a share of his allowance of water when that was reduced to little more than a pint a day. On arriving in England in 1792 Mr. Menzies presented the young plants to Kew, whence four were distributed and one remained—the relic in question. Mr. Hales was unable to afford information as to whether the old tree had ever borne cones.—G.

An Indian Appointment for a Kewite.—Mr. J. H. Burkill, an assistant in the Herbarium at Kew, and formerly in that at Cambridge, has been appointed assistant to Dr. Watt, the Reporter of Economic Products Department of Agriculture in Calcutta, and will leave this country in January next.

Royal Horticultural Society of Ireland.—The annual general meeting of the above society was held in the Central Lecture Hall, Westmoreland Street, on last Monday, and in the absence of the president, Lord Ardilaun, the chair was taken by H. Greenwood Rim, Esq. The attendance of members was a distinct advance on previous years. After the secretary, Mr. W. H. Hillyard, read the minutes, the chairman referred to the regrettable fact of the abolition of the spring show owing to the financial loss it entailed. Apart from this, the financial affairs showed a debt of £151 ls. 3d., and to enable the council to erase this, the above action was decided upon. A welcome feature mentioned in the report was the desire of council to have a hall to hold their displays, as the present venues were too expensive to retain. The adoption of the report was moved by Mr. F. W. Moore, M.R.I.A., curator of Glasnevin Botanic Gardens; he dwelt on the topic of stopping the spring show, and he suggested a guarantee fund amongst the members to be started. This suggestion was formally proposed by Mr. McGregor, and supported by Mr. Smalldridge, asking the society to issue a circular to members in connection with same. Sir Percy Grace, Bart., seconded the adoption of the report, which was adopted.—A. O'N.

Bristol Gardeners' Association.—The fortnightly meeting of the society was held in St. John's Parish Room, Redland, on Thursday, 13th inst. Mr. G. Brook presided over a good attendance. "The Hardy Fruit Garden" was the subject for the evening, dealt with in an admirable paper by Mr. Thomas Coomber, The Hendre, Monmouth. He claimed for the subject that it was in every respect worthy of the keenest study, and contended that the best results always followed the most thoughtful efforts. Dealing with details, he advised, as an ideal site for fruit culture, a position facing south and sheltered from the north, east, and west winds, either naturally or by plantations, and at an elevation well above the fog line. The soil, he said, should be at least 2 feet deep, and well drained. In the selection of varieties he advocated due regard being paid to times of ripening without a great multiplication of sorts. The best time for planting he gave as early in November. Mr. Coomber also dealt very fully with such branches of the subject as pruning, root-pruning, manuring, protection from birds and insect pests, giving from his own experience much useful information on all these matters, and concluding with the assertion that in this, as in all branches of the gardener's work, thoroughness should be his watch word. Mr. Coomber was heartily thanked for his paper on the motion of Mr. W. A. Garaway. Prizes for six dessert Apples were awarded Messrs. Atwell, McCulloch, and Bannister; and for six culinary Apples to Messrs. Bannister and Atwell. Certificates of merit went to Mr. Gardner, three pots Mignonette; Mr. E. Poole, tray of Apples; Mr. Orchard, basket of Mushrooms; Mr. Ware, Zygopetalum Mackayi; and a certificate of special merit was recommended to Mr. A. M. Ross for two bunches Grapes.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
1900.		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
December.		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
Sunday .. 9	S.S.W.	deg. 52.9	deg. 52.3	deg. 53.6	deg. 50.7	ins. —	deg. 47.2	deg. 47.9	deg. 49.8	deg. 47.2
Monday..10	S.S.W.	37.9	37.3	48.1	33.4	—	46.3	48.2	49.8	25.0
Tuesday 11	S.S.E.	48.4	46.9	53.1	34.3	—	44.1	47.6	49.8	26.2
Wed'sday 12	S.S.W.	53.1	51.0	58.6	47.9	0.04	46.3	47.2	49.6	45.4
Thursday 13	S.S.W.	53.7	51.9	54.3	50.7	0.17	48.2	47.9	49.6	50.0
Friday .. 14	S.S.W.	42.9	41.5	51.0	40.9	—	46.5	48.2	49.5	34.2
Saturday 15	S.S.W.	49.7	47.0	52.8	42.7	—	46.9	47.9	49.5	33.5
MEANS ..		48.4	46.8	53.1	42.9	Total 0.21	46.5	47.8	49.7	33.1

Dull, mild weather has again prevailed during the week, with heavy showers on the 13th inst. To show the mildness of the present season, the maximum and minimum for the same week last year were—maximum, 34.0°; minimum, 28.1°; and the rainfall for the same period practically nil.



Women as Gardeners.

MAY I crave a small space in your columns to enter a protest against Mr. John Kitley's article *re* "Women as Gardeners" (p. 513)? Women do not aspire to be garden labourers. Educated women take to gardening, and, as a rule, are of the class which employs labour. Is it sensible to offer domestic service to women who can afford college fees for a two years' training? At the horticultural colleges students do their share of manual work that they may learn how, and afterwards take subordinate posts to continue their training, but they look forward to something more interesting and worthy of their energies than digging 10 poles a day, and wages of, say £1 a week. I thank "A. D. C." (p. 421) for his tribute to women's work. We do not claim to be experts in two years, but be it remembered that at a college one attends with eyes and ears wide open, and the instructors and gardeners are there purposely to teach. Surely, then, putting it modestly, we may hope to stand at the end of our training on a level with an average gardener of five or six years' standing, who has washed pots and wheeled barrows for a year or two, and picked up his knowledge as best he could from his not always communicative superiors. I wish Mr. Kitley could meet a few women gardeners proper, for he evidently does not speak from practical experience of us.—E. WELTHIN WINLO.

Spade v. Fork.

I AM now anxious to know what Mr. Shepherd attempts to grow on the ground he describes as impossible to be dug with a fork. I again say that I have never seen the ground that could not be dug with a fork, and without breaking it either. A good workman seldom breaks his tools. Of course, there are others who can easily do it; but the best way with such is to let them find their own, and they soon learn better. I was taught to dig more than thirty-five years ago, and on very strong land too, but I never broke many tools. If I lived within easy distance of Mr. Shepherd I should be very pleased to pay him a visit and take one fork with me, which I should not feel afraid of breaking, and if I could not dig his strongest ground I most certainly should return home very disappointed.—T. WELCH.

I HAVE been a reader of our Journal for more than thirty years, and have often wished I could send something to the office for print. I have, however, always refrained, as I am not much of a writer, but I feel I must say something about "Spade *versus* Fork." I have had my present charge twenty-nine years, and it is all sand. There is a railway embankment not 50 yards from the garden, and that's all sand. I have always found the spade the best on this soil; in fact we are often glad to have a spade to dig Potatoes in very dry weather. If I had to have only one tool I should choose the spade. My father had charge of a garden, that was real blue clay, forty or fifty years ago, and he then had some three-tined forks made specially for the heavy soil as light as they could make them locally. That was before the light steel forks were much in use.—SEMPER FIDELIS.

Pear Doyenné du Comice.

THIS Pear seems to be coming to the front at last. I notice your correspondent "A. D." has thought it right to comment upon it gaining a first-class certificate, and says that this Pear has never before been so presented, but as an old writer I think if he will carry his memory back to September, 1893, or look in the R.H.S.'s "Journal," January, 1894, vol. xvi., parts 2 and 3, page cxi. and cxlii., he will see this Pear was awarded two bronze Banksian medals. On September 26th, 1893, to the Earl of Cork and Orrery (gardener, Mr. Iggulden), when Mr. Philip Crowley in the chair, and twenty-two members present, awarded this Pear a medal, and again on October 10th, 1893, when the same committee recommended another medal to Chas. C. Tindway, Esq., The Cedars, Wells, Somerset. No doubt Mr. Iggulden can comment on the former dish; the report gives it as being fruit of large size and very handsome. The second dish which was sent from these gardens contained twelve fruit weighing 13 lbs., the largest fruit weighing 1 lb. 4 ozs. Again he says, "When will any raiser produce such a variety as this?" I have no doubt the committee thought the Glastonbury of equal excellence when they awarded it a first-class certificate on October 23rd this year, which, I believe, was merited by its flavour; this also was sent from these gardens.—O. J. FEWTELL, *The Cedars Gardens, Wells*.

[An illustrated description of Pear Glastonbury appeared in our issue of November 1st, page 395.]

Pruning Pear Trees.

I HAVE not seen practised the system of renovating Pear trees mentioned by "N. H. P.," page 458, of "cutting off the whole of the horizontal branches close up to the bole, and start the tree afresh." I have operated on many trees during the past twenty years with marked success, not only with horizontal trained trees, but others, when the spurs have become long. In many instances the trees have been shortened back and grafted with improved varieties. The result has been an improved crop of superior fruit. It is a well-known fact that Pears fruit more freely on the young wood than on the stunted spurs.—S., *Yorks*.

Perpetual Strawberries.

IN answer to Mr. Richards (page 539), I do not remember having said much as to the flavour of St. Joseph Strawberry; it was the abundance, size, and continuance of the fruit, I think, upon which I principally wrote. Flavour is, literally, a matter of taste; some people like a certain amount of acidity or sharpness in certain fruits, but I do not. You will see some Strawberries catalogued as having a "rich brisk flavour," or "refreshing sub-acid flavour." Personally I should avoid these, but others, I know, would prefer them. Now St. Antoine de Padoue has, to my taste, a much sweeter and less acid flavour than St. Joseph, but of the visitors to whom I this season offered fruits to taste of the two varieties a good proportion (I should think quite a third) preferred the St. Joseph, and admitted that they did so because it was sharper. *Chacun à son goût*. I think I have before related in the Journal, some years ago, how I was judging fruit and vegetables at a local show, and coming to Strawberries proceeded to taste them, and invited my co-adjutor to do the same. "No; he didn't much care for them things, and would leave them to me." Presently we arrived at the Turnips, when his eyes glistened, and producing a knife he cut a good slice from almost every exhibit, which he munched with great gusto. "That's pretty fair, and that's beautiful; ah! this is delicious; do try it," he said. "N-n-o," I answered; "I don't much care for them things, and will leave them entirely to you."—W. R. RAILLEM.

Plant Elements.

I SHOULD like to ask Mr. J. J. Willis, who writes the article on "Plant Elements" at page 457, or some other well informed correspondent, to help me in solving some difficulties that have troubled me for a considerable time, and which I have only partially overcome.

At Longleat, the Marquis of Bath's seat near Warminster, when bones were mixed with the soil for fruit-growing, they decomposed very rapidly, scarcely a trace of them being visible in twelve months. As abundance of chalk was to be seen in the hills close by on both sides of the garden it was natural to suppose there was no lack of lime in the soil. I afterwards found, however, that the soil was very deficient in lime, and when added in large quantities the effect was magical. I do not know whether bones decompose so rapidly there now since lime has been freely used, but think very possibly they do not, and that it was lime hunger which caused the bones to be devoured so greedily.

Now I have to do with a soil which is altogether different. There is a fair proportion of lime in it, and the water from the springs is very hard (the water at Longleat from the springs is softer than rain water as caught from buildings). Half-inch bones applied here are not much decomposed in half a dozen years, and traces of them may be found where they were applied seventeen years ago. Shells abound in the soft stones in the neighbourhood, and it would really look as if phosphates were here in sufficient quantities. But I have evidence to the contrary, some of which I think is rather curious. A portion of ground had a very heavy dressing of stable manure four years ago, and bore a splendid crop of Celery. In the autumn this plot, which was of course still full of manure, was planted with Raspberries, and they have never done much good. The rows are 6 feet apart, and have only been kept clean with the hoe. The soil was not sour after the Celery; it does not hold water long enough to get sour. My theory is the stock of phosphates is so small that a vigorous crop will take up all that is available. The ground was fully cropped between the Celery with Peas and Spinach, and they also did remarkably well. Dissolved bones have a very marked effect. I do not know how much it would take to injure a crop, but a row of the Daisy Pea had about a pound to the lineal yard, and the Peas came up very fine, looking altogether like a different variety from those grown without the application.

I could give much more evidence pointing in the same direction, but perhaps this is sufficient. Now, dissolved bones cannot be used for general cropping in such quantities as used for the Peas, it would be too costly; all the soluble portion would be gone in a few weeks, and I have no evidence as to when the insoluble would be available. I am now using basic slag, and wish someone would tell me if it is likely to come into action quicker than bones (not dissolved), and whether heavy applications would be likely to injure plants. They contain, I understand, 38 to 45 per cent. phosphates and about the same quantity of lime; what is the remainder? Is there any iron available for plant food or fixing ammonia?—WM. TAYLOR. *Longleat, Warminster, Wilts.*

Aldenham House.

IN these days, when so many establishments once nobly maintained have had, by reason of the depreciation of land values, to be reduced in their working expenditure, it is good to know that there still remain several in which the love of the garden keeps pace with the affluence of its owners. Amongst the foremost of these ranks Aldenham House, the residence of Lord Aldenham, whose interest in the garden and its occupant's grows with the roll of years. There can be no mistaking the excellence of the up-keep of Aldenham Gardens, it is apparent in the trees, the shrubs, the pleasure grounds, the flower gardens, the glass department, the vegetable quarters, the lawns, and even in the condition of its miles of grass and other walks. There is a quality here that upholds the reputation of the gardens abroad as well as at home, for when an exhibit goes thence to any exhibition it is sure to be the cynosure of all those that see and understand the

a period of upwards of a dozen years the work of alteration has been in constant progress, and the art of man has unquestionably beautified and improved the face of nature. All is not yet done, but that which remains may be regarded as the finishing touches to an almost completed picture. The gardens and grounds of to-day extend far beyond boundaries of olden times, and in their formation the most skilful use has been made of any natural features that were at command.

The Lakes and Bathing Pond.

The streams, Lily ponds, and lakes on this estate are very attractive by reason of the remarkable selection of plants with which their margins and other points of vantage have been stocked. The stream, which finds its tortuous way through the home pleasure gardens, has upon its banks a charmingly varied collection of plants, shrubs, and trees, utilised in such a skilful manner as to present fresh points of interest at every turn. The series of ponds, in which Lilies and various other water plants have found a congenial home, will eventually become one of the greatest charms of the gardens, and will be the continual



FIG. 143.—ALDENHAM HOUSE—THE BATHING POND.

useful as well as the beautiful in plant life. The hand of time has touched his Lordship, perhaps, but day by day his keenness of perception remains to grasp the significance of any well defined scheme that has for its object the further adornment of his beautiful home. In this direction he is supported by his son, the Honourable Mr. Vicary Gibbs, M.P., whose younger mind eagerly imbibes the charm of this tree, or the striking loveliness of yonder flowering shrub. This gentleman's interest manifests itself in his wide knowledge of horticulture and his familiarity with tree and shrub life in its most varied phases.

The Art of Garden Making.

Aldenham Gardens are an excellent illustration of what Professor L. H. Bailey, the great American scientist, would probably define as "the art of garden making," for they have sprung from almost quite flat meadows into undulating lawns and gardens, with streams and lakes, cosy secluded nooks, and an almost ideal air of nature. These results have been the work of time, and for nearly a score of years Mr. Edwin Beckett has laboured in the making of Aldenham Gardens, which will remain as a monument to the excellent taste and skill of Lord Aldenham and the persistent energy of this capable gardener. For

resort of all those visitors who are lovers of this type of floral beauty. The old mansion of Aldenham occupied a position close by these ponds, which have been formed over the exact foundations of those shown in ancient plans. The disadvantage of being without a lake suitable for bathing became so keenly apparent that at last one was made in what was undoubtedly the most suitable position in the grounds. The work was entrusted to Messrs. Pulham & Son, and some idea of its character may be gleaned from the accompanying photographic illustration. Its banks have been effectively clothed, and in the course of a very few years it will become absolutely private and secluded. In addition to these water scenes there is a very extensive lake—or, rather, series of lakes—some three-quarters of a mile from the house, and these, to render them more attractive, have been altered and had their banks stocked with forest and flowering trees, as well as a splendid selection of evergreen and flowering shrubs.

The Pleasure Grounds.

The pleasure grounds, as is customary, abut upon the more formal gardens, and as they are almost wholly artificial, they improve in effect year by year. A great feature, and a most excellent one, has been

made by the planting of immense beds with one kind of plant only. Thus we see entire beds of *Rosa rugosa*, of Dogwood, of *Spiræas*, of *Rubus deliciosus*, of *Hydrangea paniculata grandiflora*, and so on, which are most imposing when they are in flower, or, as in the case of the Dogwood, when the glowing red stems stand naked in the winter. The plants have been chosen to come into flower and to extend in beauty over the longest possible period. The result of this wisdom is found in the fact a walk over the thoroughly drained and therefore constantly dry grass walks is a source of perennial interest to anyone. Flowering shrubs and trees have been freely utilised and add very materially to the many other charms. Of late years, too, Mr. Beckett has added pillar Roses in striking positions, and every reader of the *Journal of Horticulture* will be able to picture in his mind the beauty of a 12 feet pillar of such varieties as Paul's Carmine Pillar and Turner's Crimson Rambler. But we must pass in brief review other features, and time flies fast.

collection at the Drill Hall three varieties were recommended for awards of merit from the Royal Horticultural Society.

Vegetables in Perfection.

If no flower, fruit, tree, or shrub had been grown at Aldenham, Mr. Beckett would have made the gardens famous throughout the country for the superb vegetables he has produced. As a producer and exhibitor of all kinds of vegetables he is second to none. Considering the amount of work he has had to do in the gardens it is nothing short of remarkable to see the splendid crops that are grown under his direction. Nothing comes amiss—Potatoes, Carrots, Parsnips, green crops, Peas, and Beans are alike in perfection, and no gardener who visited Aldenham could see them all without delight, and perhaps a touch of regret, that it was not given to him to go home and do likewise. Having these facts in mind, it must be superfluous to add that the most excellent methods of working the soil and raising the plants are practised, as



FIG. 144.—ALDENHAM HOUSE.

The Flower Gardens.

Like the features that have been already adverted to these are varied in formation and character. The garden in immediate contiguity to the mansion (of which the northern aspect is shown in the illustration) is laid out in somewhat formal beds filled with various brightly coloured flowers. This with the several handsome trees about is very charming, and some attractive views may be had therefrom to the pleasure grounds and the surrounding country. Within a stone's throw is a most delightful subtropical garden, which compensates in beauty what it lacks in size. It is filled with all the well-known plants that usually find a place in such gardens. To an extent these both have formal characteristics, and to the lover of freer planting and less restriction in growth the Michaelmas Daisy Garden will be a centre of the keenest pleasure. It finds accommodation for a most complete collection of the Asters including the best of the older varieties, with several that have found a birthplace at Aldenham. As indicative of the quality of those it may be observed that when Mr. Beckett staged a

without these such success could never be attained. That Mr. Beckett can teach as well as work is proved in his admirable treatise on vegetable growing for various purposes.

Under Glass.

The limits of available space are reached, and much that ought to have been said must be excluded. A small corner must, however, be devoted to a cursory glance into the houses where fruits and flowers wield a charming sway. The first thing to attract attention was the grandest collection of Capsicums the writer has ever been privileged to see. They were in 5-inch pots, and presented a unique and beautiful display. Besides these there was the usual complement of foliage and flowering, as well as fruits, and every kind and variety bore the impress of the most skilful cultivation. The opportunity to visit Aldenham garden should never be missed, as if one went every week for a year one would still find something on the next occasion to see and to admire that had been overlooked on every previous pilgrimage.—ZINGARI.

Culture of Maidenhair Ferns.

THE popularity of the Ferns, and especially of the Maidenhair, has become more marked within the last few years. They are not nearly so troublesome to cultivate as they were at one time considered to be. As persons become better acquainted with the habits and uses of this beautiful class of plants, they will be still more largely grown, and the cottager will attempt to cultivate small plants of the graceful Maiden-hairs (*Adiantums*) to mix with the scarlet-flowered Zonal Pelargoniums ("Geraniums") that generally adorn his window during the early spring and summer months. The Maidenhair is one of the most popular greenhouse Ferns, *Adiantum cuneatum* being the species generally grown under this popular name. It was found in the year 1820. The Maidenhair received its name from the various decoctions made from the stalks of the old English Maidenhair, *Adiantum capillus-Veneris*, for restoring the hair, and also for preventing its coming off. Coles, writing in the year 1657, says, "The lye wherein Maidenhair is sodden or infused is good to bathe the head and make the hair come thicker in those places which are more thin and bare." Other plants at various times have received the name of Maidenhair, but at the present time *Adiantum cuneatum* is generally referred to under that name.

[Soil and Potting.]

The soil should consist of fibrous, mellow loam, with a small quantity of horse droppings, together with enough of either sharp sand, cinders, charcoal, or broken bricks to make the whole thoroughly porous for the water to readily drain away. The loam should be broken to pieces by the hand, and afterwards sifted so that no fine particles remain. This soil will be found to suit the wants of the Maidenhair admirably, therefore I recommend it to be used for all pottings. The pots must be clean, and if they have been used before they must be washed and scrubbed inside and out, not only for the sake of appearance, but for the well-being of the plants; if placed in dirty, wet pots, the next time potting takes place it will be found impossible to remove the plant without leaving a quantity of soil and roots adhering to the sides, and the plant will be some time before it recovers from the check it thus receives. If new pots are used, they should be thoroughly soaked, till they can absorb no more water, then be taken out and allowed to become dry; if the plant is potted without this being done, the pot will rob the ball of the plant of its moisture when the surface soil appears to be quite wet enough. Do not paint the pots, as this not only makes them unsightly, but prevents the roots from acquiring air through the sides of the pots, which are, of course, air-tight, and almost as bad as if they had been glazed.

In crocking place a hollow potsherd, oystershell, or anything in this way suitable for allowing the water to escape freely, then fill round with a layer of others till there is sufficient drainage. The amount depends upon the size of the pots; judgment must be exercised in pot-crocking. After this has been done place a layer of moss or leaves on the top to prevent the soil from washing among the crocks and choking the drainage. Moss is much the better, as this material will last longer than partly decayed leaves, and on this account is more suitable when plants have to remain in the same pots for a long while, as Ferns sometimes have to do when the space is limited.

Potting should be done about February if it can be managed; but a better guide for amateurs will be to advise potting when the young fronds begin to push up, as the roots will then be found making a fresh start, and they will soon re-establish themselves. Be careful to prick round the balls of the plants so as to loosen the roots and give them a better chance of entering the new soil. If the plants are dry give a good soaking of water before potting takes place, and allow them to become dry enough to handle before potting. Deep potting is not necessary; rather pot high than low. Do not bury the crowns on any consideration. The plants can be always top-dressed, but you cannot raise the crown of the Fern up without injury to the roots. Plant moderately firmly, and leave the plants for a few hours before watering. Useful plants for decorating can be grown in 5-inch pots, and unless specimens are required it will be found quite enough to pot every other season.

Temperature and Watering.]

After potting is completed place the plants in a temperature ranging from 55° to 60°, and as the days lengthen and the light increases it may be raised a little higher by the heat of the sun. Gradually decrease again as the days shorten, and the plants may be kept during the resting period—the winter—in a temperature of 40°, increasing again as the spring advances. After the plants have completed their growth it will be necessary to harden them to enable them to bear the harsh treatment to which they must often be sub-

jected. This can be effected by giving more air and lowering the artificial heat till you have them in a condition to stand in a cold-pit or frame during the summer without injury to the fronds. When the plants are grown in a cool temperature the fronds will be found more lasting when used for house decoration, bouquets, wreaths, or crosses, and on this account they are more valuable.

Maidenhair Ferns must never be allowed to suffer from the want of water. They ought to be examined every morning or evening, and if dry enough water should be given to thoroughly soak the ball of the plant and drain freely away. In the summer it is best to water in the evening, so that the roots can absorb sufficient moisture to help to withstand the heat of the following day. If the plants are in small pots they will require to be looked over during the day, and if dry should be well watered. Large plants rarely require water more than once a day unless the pots are very full of roots; but naturally the more mouths there are to be fed, the greater will be the amount of food required to supply them. If at any time the plants have been overlooked, and the soil has become very parched, immerse the pots in water up to the rim, and allow them to remain till the soil will absorb no more, which is indicated by the air bubbles ceasing at the top of the water.

As a rule, water should be given at the same temperature as the house in which the plants are growing. Rain water is far the best for plants; but if this cannot be obtained, allow the hard water to remain exposed to the air for a day or so; this will do much towards softening it. If the soil has become green and sour on the surface, through constantly watering a little at a time, examine the drainage and see if it is all right. If so, remove the surface soil and top-dress with fresh; then follow the hints given and the plants will cease to look unhealthy through the ill effects of injudicious watering.

Liquid manure should be given to plants when they have more or less exhausted the soil of food; this will be seen when the roots make their appearance on the surface of the soil, or when the plant becomes root-bound. Then will be the time to top-dress or give liquid manure. Soot water is most useful for the purpose, but care is necessary in using it at first; when the plants get used to it, it may be given a little stronger. Chemical manures are very useful for making liquid manures, and these can be made and used as wanted.

Syringing.

Some growers advocate syringing their plants daily, but I cannot speak well of the plan. I find it to be injurious to the plants; if kept constantly soddened, they soon become unhealthy and lose their fronds. I speak chiefly of plants grown in pots. It is true that Ferns delight in a humid atmosphere, but this can be given them without daily syringings, which keep the fronds soft, and render them more liable to the attacks of insects. Syringing between the pots should be practised, and the floors and walls ought to be moist by this means, instead of the plants. If syringing the latter is advisable at all, it is when the plants are growing in rooms, or when they have been used for house decoration, and it should be done for the purpose of washing the dust and insects off them. With Ferns growing on walls it is almost impossible to avoid using the syringe for watering purposes; but if syringed once a day this will be enough, provided plenty of water is kept about the floors. When Ferns are planted out the air has more chance of getting amongst the fronds, thus preventing the moisture from remaining.—P. G.

(To be concluded.)

The Close Walks at Cowdray.—Mr. Bourdillon calls attention in the "Times" "to a danger threatening a very curious and beautiful bit of ancient pleasure ground, the famous 'Close Walks' at Cowdray, in Sussex. The Midhurst District Council are, it appears, in seriousness negotiating with the present owners of this historic property, with a view to converting these most interesting walks into an arrangement of sewage tanks. Mrs. Roundell, in her valuable and scarce work on 'Cowdray,' calls particular attention to the 'Close Walks' as probably unique in England, and as many of your readers are, no doubt, unacquainted with them, I quote her description:—'The Close Walks were formed by four narrow avenues of fine old Yews, planted at right angles so as to form a square. This square measured about 150 yards each way. In the centre were circles, also of Yews. From the size of the Yew trees, and the arrangement of the Close Walks, this portion of the ground was most remarkable. It was here that Queen Elizabeth dined at the table 24 yards long.' (Roundell's 'Cowdray,' p. 124.) There is not, so far as I can learn, the least necessity for selecting this particular spot for sewage tanks, and indeed it is in many respects unsuitable, being near habitations, and too sheltered to be properly ventilated. A great effort is being made locally to stay the negotiations before it is too late; but it seems to me a just occasion for invoking the interference of outside public opinion by means of your columns."



An Old Fuchsia.—We have some effective examples of the striking old Fuchsia Dominiana now flowering in pots, that were lifted from the open ground. The cuttings were rooted in March and eventually planted out. In the autumn when the flower buds were showing the plants were potted in good soil, and they will in all probability continue flowering throughout the winter. The beauty of its bright trumpet-shaped flowers is enhanced by the rich dark foliage, which is much finer than that of most other Fuchsias.—J.

Pear Charles Ernest.—I liked this Pear very much indeed when presented to the Fruit Committee on the 4th inst., when it was just about a couple of weeks past its best. Whilst not quite up in that condition to the flavour of Nouvelle Fulvie, it has smoother flesh, more melting, was finer and handsomer, and in this case had been produced from young trees in the open nursery quarters at Langley, where it had fruited well. This naturally leads to the assumption that it will make a first-rate variety for bush or pyramid culture in gardens on the Quince stock. On the other hand Nouvelle Fulvie can be induced to produce good fruits even in Kent only on a wall. I should think that generally southwards Charles Ernest would make a fine Christmas Pear if it were grown on a north-west wall, where its maturation might be slow.—A. D.

A Word for the Epacris.—Surely the popularity of the Chrysanthemum has had much to answer for in relegating to almost oblivion many charming winter-flowering plants that used to delight and prove of interest in a mixed collection of greenhouse plants. The Epacris used to hold a very prominent position, and there was no denying the fact that well grown plants having their tall slender shoots literally wreathed the whole length with waxy flowers of crimson, white, pink, or rose, were objects of interest, beauty, and usefulness, the shoots cut their full length coming in useful for the lighter forms of decoration; so that now, when the Epacris is in season, the gardener who would have variety might safely invest in a few plants, and so keep in prominence a most ornamental family of plants of very easy culture.—P.

A Note on Libonias.—The great secret in growing these beautiful dwarf flowering plants is the thorough maturation of the wood, otherwise the plants flower poorly, and are of little decorative value. The plants are now showing abundance of flower buds. Bushy plants in 5-inch pots well flowered are invaluable for the conservatory or any other structure kept gay with flowering plants. Our plants have been kept as cool as possible up to the present time, and will be retarded for some time longer in the greenhouse. A good place for them is a shelf close to the glass. If any of these plants are wanted in flower select the earliest, and they will come forward quickly if introduced into an intermediate temperature. Water carefully, and supply weak stimulants every alternate time they require water, or apply a little artificial manure to the surface of the soil.—F.

A Wonderful Iris.—Under this heading Mr. Peter Barr writes to the "Shepperton (Victorian) News" regarding a new Iris as follows:—Those that visited the Tatura Show on Wednesday, October 17th, must have seen Iris Painted Beauty. It was conspicuous in the fine but crowded box of cut flowers staged by Miss Love of Tatura, and was during the day the cynosure of the exhibits. Its beauty was of a very exceptional, marked, and distinct character, and was the general topic of conversation. An expert gave it as his opinion that no Iris of so much refined beauty had ever before been seen in this or any other country. It belongs to the group commonly known as German Iris. The flower is pure white, and consists of three upright petals called standards, and three lower petals called falls. Each of these petals are veined all over with rich rosy red. The petaloid stigmas, from beneath which runs the primrose beard, are of the purest white. Up the centre of each runs a rosy red beam, terminating in a feathery, club-like knob. Mr. Barr estimates the value of the stock of this truly beautiful Iris at £50, and congratulates Miss Love on having raised an Iris worthy of world-wide fame.

Christmas Tree Land.—The trade done in Christmas trees in Germany is astonishing; every house, however poor its occupants, showing one. It is not necessary that there should be children in the house, even crusty old bachelors, says the Berlin correspondent of a daily paper, making a point of having a "weihnachtsbaum." The markets all over the country look like huge gardens at this time of the year, being laden with Silver Firs, some as high as a small house, others no larger than a hand.

The Promise of Fruit.—Rarely have we had such a long spell of almost summer-like weather or such continuous rain as that through which we have lately been passing, and it makes one wonder what the effect on fruit will be if it continue for any length of time. I have been examining a large plantation of fruit trees, with a view to renovating, and also planting young ones; and although I knew many would have to be sacrificed owing to their worthlessness, I could not help noticing the vigour and abundance of fruit buds which they displayed. Not only are old trees so, but the young ones are even more full. Given some nice frosty weather and a good spring, I predict for next year, especially for Apples and Pears, a crop that should well repay the cultivator.—R.

Pineapple Nectarine.—This is a very good Nectarine, which should be accorded a place in every garden. Few, if any, surpass it for richness of flavour, high colouring, or freedom of fruit-bearing. Its parent, Pitmaston Orange, is a grand variety of first-rate flavour, but for colour cannot be compared to the Pineapple. Although Elruge is a valuable, well-coloured, free-fruited sort, it cannot favourably compete with the Pineapple, which is much better than any variety I am acquainted with. It appears to have one fault in some gardens, and that is cracking; but whether this is really a fault of the variety or the system of cultivation I do not know. In our case it has never produced a cracked fruit, but it is kept a little drier at the roots when the fruits are ripening than is necessary with any other variety I grow. This appears to suit the Pineapple, and the fruits swell to a large size. It is a very accommodating Nectarine, and will do well at the coolest end of a second early house as well as in later succession houses, and is valuable for the latest house of all.—B. W.

Notes on Figs Under Glass.—Where it is desired to have ripe Figs in April the trees must be started at once, and they must consist of the early varieties, and such as hold the first crop fruits, than which there are few to equal Early Violet and St. John's. These properties, however, depend on the trees not carrying heavy second crops the previous season, and on the autumn-set being on sturdy, well-ripened wood. Angelique is also a good forcer, and so is White Ischia. For general purposes Brown Turkey surpasses all others, being good both in first and second crops, but it must not bear the latter on the points of the shoots. The trees for early forcing should be thoroughly established in pots. A slight warmth at the roots is highly beneficial. The temperature of the house should be 55° at night, gradually increasing it to 60°, and 65° in the daytime, 5° more in mild weather, and 70° to 75° with sun heat and moderate ventilation. Water in a tepid state must be supplied to the roots as required, and the trees and house syringed morning and afternoon, damping the structure later on, but not the trees, as it is desirable to have the foliage fairly dry before nightfall.—GROWER.

The Bermuda Buttercup.—The long sounding name of *Oxalis cernua lutea simplex* is the catalogue title given to this, one of the most charming of the Oxalises, and the beauty of its Shamrock-like foliage and richest of yellow flowers are not surely generally known by those who want variety of plant and colour of flowers amongst the ordinary occupants of a warm greenhouse. As a basket plant the variety would lend itself admirably, the flowers drooping and hanging below and amongst the foliage in such a manner as to make it look remarkably becoming. The type was introduced from the Cape of Good Hope as far back as 1757, but this does not make it any the less beautiful or less worthy of cultivation. A splendid batch of flowering plants was noticed recently in Messrs. Clibran & Sons' Oldfield Nursery, Altrincham, the floriferous habit being most marked, and a credit to the growers. Dormant tubers may be purchased in their season and potted in a fairly light compost, abundance of water being required during the growing season, as the roots soon take hold of the compost, and nothing is more fatal to their beauty than a check of any description. In concluding, I may remark that it is one of a large number of neglected plants that ought to be brought to the front.—R. P. R.

Fruit Trees and Shrubs at Allington.

It is fitting that Kent, the garden of England, should find a place within its confines for what is undoubtedly one of the largest fruit nurseries in the country. Scores of acres at Allington are under fruit culture, and the area becomes greater year by year. Every now and again we hear sensational statements as to the amount of money that is lost in fruit culture for market, but the enormously increased sales of trees by such growers as Messrs. Bunyard & Co. go far to disprove these reports. Notwithstanding the extension of ground in various directions for the production for sale of Apples, Pears, Plums, Cherries, and other fruits, the supply in some directions can scarcely be said to meet the demand, though it is readily observable that fashion changes in fruit planting, for a kind or variety which in one season was all the rage becomes a little later a "drug in the market." But for fluctuations such as this the grower is prepared, and it is seldom that he allows really good trees to go to waste. As long as they remain in his skilled hands they produce fruit, and these placed on the market bring some return at any rate for the labour expended upon the trees.

The Scope of the Business.

The whole of the land at Allington is not, however, as many persons suppose, devoted exclusively to fruit trees. As a matter of fact, the ground given over to flowering shrubs, Roses, Conifers, and forest trees closely approaches to 100 acres, so that it will readily be grasped what an important branch of the Bunyardian business is this. Then, too, the interested visitor finds hardy flowers in abundance, and of excellent variety and quality; while here and there will be seen a quarter of Broccoli, Beet, or other vegetable grown for the purposes of stock. All these are at Allington alone, and do not embrace the stock at The Farm and the Chiltern Hundreds. The holding capacities of both of these establishments are stretched to the utmost, the former with fruit, vegetables, and farm crops, and the latter mainly with Strawberries. To these a really surprising amount of ground and attention are devoted, and the numbers of runners put forth, either in small pots for forcing or for the making of ordinary outdoor plantations, increase every season, which is a satisfactory proof of the quality of the stock produced.

Cherries and Plums.

There can be little doubt that to the majority of visitors at Allington the most astonishing feature will be the number of Cherries that are stocked. As one visits the various portions of the nursery, including the lately added area known as Klondyke, one becomes more and more astounded at the Cherries in every direction, and which Mr. Bunyard estimates at something like 150,000. It is not all lands that suit Cherries, but it is beyond dispute that finer plants could not be desired than those at Allington. They vary from one year old upwards, and the excellent health of the tree is reflected in the beautiful bark, growth, and buds; while to see one lifted is to observe a mass of fibrous roots clinging to the rich loamy soil of the district. A popular variety will be represented by tens of thousands in various stages of development. Plums and Damsons range some distance behind Cherries in importance, and yet they cover acres of ground. Though, of course, differing slightly in character from the Cherries, the wood of these fruits is equally good in its way, and in several cases the specimens offered could scarcely be improved upon. Not only do we find in these three fruits trees of all ages, but also of all the shapes in which they are customarily trained to suit all purposes and positions.

Mulberries and Nuts—Small Fruits.

Everyone has become so accustomed to seeing Mulberries, over whose tenacious branches the winds of more than a century of winters have blown, that to find a stock of 500 youngsters causes no little surprise. Here they are, young and strong and healthy, with all the virility of youth, and soon they will find their respective ways to various parts of the country to adorn many a garden when the incoming century shall have come and gone. Though Kent is constantly being designated a county of fruit, it might with equal justice be termed a county of nuts, for in some districts they may be seen by the acre. Young nuts are, of course, in constant demand, hence we find thousands in this busy "manufacturing" centre, all the very finest varieties of Cobs and Filberts being represented in varying quantities according to their importance. The big bud of the Black Currant is reproduced in the nut, and causes much trouble and loss to growers in some seasons. Mr. Bunyard was asked if he had found a remedy for the pest in either case, and confessed with regret that he had not. There is, however, at Allington a Black Currant that keeps remarkably clear of the Phylloxera, and that is the Boskoop Giant. It is a stronger growing variety than any other, and produces larger fruits. If, in addition, it is resistant of the attacks of the bud mite, then Boskoop Giant is the Black Currant *par excellence* for every garden and every field. This is, as the Scottish courts would have it, "not proven." Red and White Currants, Gooseberries and Raspberries from the most infantile stage, are all there ready to be examined and admired as excellent stock for planting by every visitor to Allington.



FIG. 145.—PEAR FONDANTE D'AUTOMNE.

Apples and Pears—Fruit Trees in Pots.

Other writers have told in the pages of the *Journal of Horticulture* of the extent and variety of the Apples and Pears at Bunyard's, and I would, therefore, content myself with just an appreciative glance and word. They are there in thousands, representing all the well-known and many of the lesser grown varieties, ready for the first comer who wants stock, either for the fruit farm or for the garden. Three or four hundreds of a sort is no uncommon quantity for the former purpose, either of Apples or Pears, Cherries or Plums, not to speak of bush fruits. While I cannot say I was much surprised at what was seen in the fruit quarters outside—except at the Cherries and Mulberries—I was astonished

to see the amount of attention that is devoted to fruit trees in pots. These are accommodated in several light structures, and include, in addition to Apples, Pears, Plums, Cherries, Peaches and Nectarines, a very large stock of Figs of different sizes to suit the requirements of all growers of this luscious fruit. This department of the business would, perhaps, be more interesting considerably earlier in the year, but the trees are well worth looking at, even in their present winter garb. As an illustration of the scope of the work, it may be noted that the trial house for Cherries contained this year seventy varieties, all but one of which was true to name. Pot Vines form another distinctive feature, but they are accommodated at the firm's headquarters at Maidstone, and not with the bulk of the stock at Allington.

Evergreen and Flowering Shrubs.

During the past few years great strides have been made in these departments, which now, as has already been said, call for nearly 100 acres of land. The collection of Conifers is rich not only in the best known species, hybrids and varieties, but also in rarities, and this becomes thoroughly impressed on the mind as the tour of inspection proceeds. The new comers are procured on the first opportunity, both in these and other plants, so as to insure the stock being always thoroughly up to date. All the most useful and beautiful flowering

trees and shrubs are included in this comprehensive emporium, and Mr. Bunyard has more than once spoken strongly in favour of their more general utilisation in gardens. In furtherance of this object the firm includes in its most recent catalogue selections of these and Conifers for various situations and soils, the observance of which should reduce failures to a minimum. Rhododendrons on their own roots occupy a considerable amount of ground, and are apparently in excellent health. There are the trees and the shrubs, and anyone who wants to spend a profitable day in the country might do very much worse than travel to Allington, even though this involves the journey being made on the heartily abused South-Eastern and Chatham Railway.—D. R. W.

[To accompany our contributor's notes Messrs. G. Bunyard & Co. kindly give us the loan of the two blocks representing a view in one of the Allington orchard houses and an example of Pear Fondante d'Automne in a pot.]

THE Black Currant Mite.

THAT injurious insect pest *Phytoptus ribis*, the destroyer of our Black Currant crop, still remains the entomological dragon which no human St. George has arisen to overcome. So much was the practical outcome of Mr. Newstead's not uninteresting, yet far too inconclusive, lecture before the members of the Royal Horticultural Society, at the Drill Hall meeting on the 6th ult. It was something of a surprise to find that the original subject of "Spraying for Insects and Fungi" should have resolved itself into one on the Black Currant mite alone, yet Mr. Newstead must be credited with some courage in having dealt with a mite which is in its destructive powers quite a giant.

It was, I thought, humiliating, as the outcome of the lecture to have to admit that so far no known means of combating the pest successfully had been found. The lecturer's statement that picking off the buds infested with the pest had proved of no service was, in my opinion, a peculiarly pessimistic remark. Evidently if the gathering of buds, each of which may be at a given time in the spring infested with thousands of mites, is productive of no benefit, then may we as well throw up our hands and admit ourselves beaten.

It was not a matter for surprise to learn from Mr. Castle that the result of experiments in the direction of destroying the insect at Ridgmont showed entire destruction of the bushes to be the only remedy. Hot water, which killed the bushes, killed the insects. If not hot enough to kill the former then the insects were uninjured. Even Mr. Cousin's recently published remedy, fumigating with cyanide of potassium, had failed. Cutting down the bushes to the ground had killed some, and in other cases had failed. Clearly the Entomological Society has, to use an Irishism, a very hard nut to crack in the Black Currant mite. There is a crown of glory waiting for the man who can bring forward a reliable cure.—A. D.



FIG. 146.—AN ORCHARD HOUSE AT ALLINGTON.

Royal Horticultural Society.

Drill Hall, December 18th.

THE last meeting of the Royal Horticultural Society for the present year—or, perhaps, we might say the present century—was held on Tuesday in the Drill Hall. There was a varied exhibition for the season of the year, hybrid Begonias from Messrs. J. Veitch & Sons, Zonal Pelargoniums from Messrs. Cannell & Sons, and Chrysanthemums from Mr. Edwin Beckett being especially noticeable. Orchids formed an attractive feature, but fruits and vegetables were not numerous.

Fruit Committee.

Present: G. Bunyard, Esq. (in the chair); and the Rev. W. Wilks, with Messrs. J. H. Veitch, C. Herrin, S. Mortimer, A. Dean, J. Wright, H. Esling, F. Q. Laue, E. Beckett, J. Willard, G. Reynolds, J. Cheal, and H. Balderson.

Messrs. H. Lane & Son, Berkhamsted, Herts, staged a collection of Canadian Apples, grown by Mr. W. W. Cox, Collingwood, Ontario. The varieties comprised Ontario, Spy, King of Tompkin's County, Wagner, Cranberry Pippin, Ben Davis, Baldwin, and Golden Russet. Some of the fruits were of fine colour. Messrs. J. Veitch & Sons, Royal Exotic Nurseries, Chelsea, contributed Carrots Model, Matchless, and James' Intermediate, with Celery, Covent Garden Red, Early Rose, Defiance, Standard Bearer, Champion Solid White, and Ivory's Pink.

Messrs. J. Carter & Co., High Holborn, arranged a large group of Capsicums in fruit. A considerable number of varieties was represented, and they made an attractive display (silver Banksian medal). Mr. C. Ross, gardener to Captain Carstairs, Welford Park, Newbury, exhibited a seedling Pear named Ace, which is said to be a cross between Josephine de Malines and Seckle. Mr. Ross showed also Apples The Houlton, Rival, and Mottled Russet. Mr. J. Douglas, V.M.H., Great Bookham, staged a dish of superb Allington Pippin Apple. Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, showed Pear President Barabé; and Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, Pear Olivier des Serres. Mr. Wadds, gardener to Sir Weetman

Pearson, Paddock Hurst, Crawley, showed some magnificent Bananas (silver Banksian medal). Some bottles for fruit preservation with a patent closing apparatus were shown by Messrs. E. Lee & Co., Maidstone. Messrs. H. Cannell & Sons, Swanley, staged Cannell's Defiance Cabbage in simply perfect condition. The awards made at Chiswick for Celery and Potatoes were confirmed on the present occasion.

Floral Committee.

Present: W. Marshall, Esq. (in the chair); and Messrs. C. T. Druery, H. B. May, R. Dean, Wm. Howe, W. Bain, C. E. Pearson, C. E. Shea, G. Gordon, W. J. Cutbush, W. J. James, E. T. Cook, Chas. Blick, Geo. Paul, H. J. Jones, and Jas. Walker.

Messrs. R. & G. Cuthbert, Southgate Nurseries, arranged a spring-like table of double Daffodils disposed in a bed of Maidenhair Ferns. The flowers were well developed for the season. The variety was labelled Early Double Golden, but was very much like the old Van Sion of an inferior form, but quite a novelty at this season (bronze Flora medal). From Messrs. H. Cannell & Sons, Swanley, came a glorious display of Zonal Pelargoniums, arranged in specimen glasses. The colours were as bright as one expects to see in May, and the individual blossoms quite as large. Such a display, if seen in a private green-

house at Christmas, would create quite a furore. Most of the new seedlings yet to be put in commerce were remarkable for their size and substance, while the most conspicuous of the named varieties were General Buller, Lord Roberts, The Sirdar, Barbara Hope, Sir John Llewelyn, Mary Pelton, Dorothy Burroughes, and Lady E. Malet (silver Flora medal).

Mr. E. Beckett, gardener to Lord Aldenham, Elstree, staged a good table of decorative Chrysanthemums; most of the bunches were fresh and bright, though a few were obviously past their best. The most conspicuous were Jessica, white; Princess Victoria, creamy white; Golden Gem, yellow, shaded buff; King of the Plumes, a good golden yellow; Red L. Canning, a chestnut red; Mrs. D. B. Crane, a rosy lilac, single variety; Gold Thread, yellow and red; Mrs. Filkins, canary yellow; and the well-known W. H. Lincoln (silver Flora medal). Messrs. F. Sander, St. Albans, arranged a group of *Coleus thyrsoideus* in pots on the floor. The colour being bright blue, and the leaves a dull green colour, it will evidently make a good winter blooming plant for the conservatory (bronze Flora medal). Messrs. J. Veitch & Sons, Ltd., Chelsea, staged a large table of their winter flowering Begonias, the group of Winter Cheer being especially attractive; Ensign, though not so bright in colour, is distinct and very free flowering; also a group of the blue *Coleus thyrsoideus* from Central Africa, and a box of their well known hybrid Rhododendrons, which were very attractive (silver Flora medal).

Messrs. W. Wells & Co., Ltd., sent stands of Chrysanthemums Golden Princess Victoria, a good clear yellow sport from the well-known Princess Victoria; the colour should be welcome for its lateness; and Letrier, a good white that has been frequently described. From Messrs. Paul & Son, Cheshunt, came a basket of rosy red Carnations in pots called America; the flowers were of good substance and very fragrant; also a basket of Holly Marnocki, which were well berried.

Mr. Wm. Bain, gardener to Sir Trevor Lawrence, Bart., Dorking, exhibited sprays of *Lapageria rosea*, The Knoll variety. The flowers were large, bright in colour, and thickly studded on the stems, a grand variety. Mr. J. Butler, gardener to the Earl of Ancaster, Stamford, sent a collection of Violets, which included good bunches of Princess of Wales, California, Marie Louise, Lady Campbell, Amiral Avellan, and a few stems of *Chimonanthus fragrans*, beautifully flowered and delightfully fragrant. The same exhibitor also staged a collection of Begonia Gloire de Lorraine in fine form. *Cocos Weddeliana* was employed as a background, and *Lygodium scandens* formed a good front (silver Banksian medal).

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the chair); and Messrs. J. O'Brien, de B. Crawshay, H. M. Pollett, H. Ballantine, H. Little, F. Sander, H. J. Chapman, W. H. Young, H. A. Tracy, F. J. Thorne, E. Hill, Jas. Douglas, and J. Colman.

Messrs. J. Veitch & Sons, Chelsea, sent a small group of Orchids, comprising *Cypripediums* and *Lælio-Cattleyas* in variety as the main features; *Epidendrums* were also represented (silver Flora medal). Mr. H. Grogan, Worthing, showed *Lælio-Cattleya Lucasiana*, and Mons. Ch. Maron, Brunoy, *Cattleya Dowiana Rosita*. Messrs. F. Sander and Co., St. Albans, contributed plants of *Epidendrum Endresio-Wallisi*. Numerous exhibits of single plants of Orchids were sent by Messrs. C. Davis, C. H. Feilding, H. Little, R. I. Measures, and Norman C. Cookson. Mr. Morris, gardener to J. W. Moore, Esq., Bourton-on-Water, exhibited a very interesting collection of *Cypripediums* (silver Flora medal).

Certificates and Awards of Merit.

Cattleya Dowiana Rosita (C. Maron).—This is a superb variety. The petals are cream almost wholly obscured with rich rosy red; the sepals are cream with rosy red at the tips. The magnificent lip is velvety crimson with golden lines in the throat (first-class certificate).

Chrysanthemum Jessica (E. Beckett).—A pure white variety that will be valuable for late use (award of merit).

Coleus thyrsoideus (F. Sander & Co. and J. Veitch & Sons).—This green-leaved *Coleus* has long spikes of bright blue flowers (award of merit).

Lælia Mrs. M. Gratrix grandis (J. Veitch & Sons).—This is a superb variety; it is larger and better in every respect than the type (first-class certificate).

Lælio-Cattleya Cassiope major (J. Veitch & Sons).—This bigener is from a cross between *Lælio-Cattleya exoniensis* and *L. pumila*. The broad sepals and stout petals are delicate rose, and the fine lip crimson with a purple suffusion (award of merit).

Lælio-Cattleya Lucasiana (H. J. Grogan).—This is from a cross between *Cattleya labiata flammea* and *Lælia grandis tenebrosa*. The most pronounced colour is rich purple rose with deep velvety crimson in the centre of the lip (award of merit).

Pear Olivier des Serres (W. Bain).—An excellent variety that is too well known to call for description (award of merit).

Chiswick, December 11th.

A meeting of the Fruit and Vegetable Committee was held on this unusually late date, eight members being present, and comprised Mr. W. Bates (chairman), and Messrs. W. Pope, W. Poupert, G. Kelf, S. Mortimer, A. Dean, G. Reynolds, and H. Esling. The committee was

first engaged in examining several stocks of *Celeriac*, but not one gave good results, the edible portion being imperfectly developed. This was thought to be due to the exceptional porosity or lightness of the soil. A dozen or so diversely named *Celeries*, all excellently moulded, were then seen; condition was excellent, but none were large. In every case the stems were solid and crisp. Of reds, the best were Market Red, Ivery's Pink, Standard Bearer, and Veitch's Rose. The last-named was particularly sweet, but all were exceptionally good. Three marks were awarded to each variety. Of whites the best were those named Bibby's White, Superb White, and Champion Solid White, but here all were practically alike. Three marks were awarded. White Plume and White Plume *Celeriac* were of no use here, whatever they may be like elsewhere.

At a preceding meeting, when late Potatoes were seen, the tubers generally being too unripe for a proper cooking test, it was agreed they be cooked and tasted in December. Eight varieties were thus selected. The best in table quality, and also a good cropper, was a white round named Dumfries Model, which quite reminded of the old Scotch Regent. Sir J. Llewelyn, also tried, had its former award of merit confirmed. It is a marvellous cropper; none of the others was good enough—indeed, two or three were quite watery. There seems to be ample room yet in raising new Potatoes to largely improve on table quality—a great desideratum.

Plants for Indoor Decoration.

FOLIAGE and flowering plants are indispensable, as well as cut blooms, for the embellishment of rooms, corridors, halls, and windows. Foliage plants are in large demand nearly all the year round, because if the right sort of plants are employed they do not suffer from the confinement and position as much as flowering plants do. In a fairly light position and not subjected to cold draughts of air many foliage plants remain a considerable time in an attractive and healthy condition. The chief point in maintaining them for a length of time in a presentable condition is in watering, or rather affording regular attention to see that the soil is kept healthfully moist. There is no harm in the soil drying out to a certain extent, but it must not long remain in that state, or deterioration will set in in the shape of lost vigour, as indicated by yellow leaves at the base of the plant, and a loose flabby condition of the younger and greener foliage.

Daily examination of the plants should be made, especially of those which are situated in rooms where a fire may be used regularly or occasionally. In such apartments the atmosphere is dry, consequently the loss of watery vapour from the leaves is great, and, as the moisture is obtained from the soil in the pots by the roots, it is of great importance that the soil moisture be maintained. The water given ought to be soft, and of the same temperature as the room or place in which the plant is growing. If dust accumulate on the leaves, light spongings with soapy water is the best plan of removing it.

Ferns are specially susceptible to dryness at the roots and the drying influences of the air, hence their requirements must be carefully attended to, when *Pterises*, *Aspleniums*, *Nephrolepis*, *Cyrtomiums*, and *Scolopendriums* will remain fresh and uninjured. Even *Adiantum cuneatum* with good treatment in these respects does well, and is an excellent Fern for indoor use. If, however, subjected to irregular treatment it is, like many others would be, unsuitable. The green-leaved *Dracænas* and *Aspidistras* are the best of plants for endurance, but it is not wise to subject them to wilful neglect for an indefinite period.

Palms, especially *Kentias*, are first-class indoor plants. With frequent changes—that is, not keeping them too long in semi-dark positions—they remain attractive. With neglect, the points of the leaves decay, and the leaves quickly assume a rusty hue. *Corypha australis*, *Latania borbonica*, and *Seaforthia elegans* may be frequently employed in the same manner. *Cocos Weddeliana* is a beautiful Palm, but being somewhat tender is only suitable for temporary use, and not for extended periods.

Flowering plants should not be kept too long, and ought, if possible, to have the benefit of light. The flowers are liable to drop of such plants as *Primulas* and *Azaleas*. The *Calla* or *Arum Lily* is a splendid plant for a room for a brief period, maintaining the soil moist. *Begonia Gloire de Lorraine* and *B. Moonlight*, with a few pots of *Roman Hyacinths*, or early *Narcissi*, would form a very pleasing group intermixed with a few light Ferns.

Cinerarias, *Genistas*, *Lily of the Valley*, *Deutzia gracilis*, *Cyclamens*, *Dutch Hyacinths*, and *Spiræas* can all be used for indoor decoration in their season of flowering. The steadier they can be grown and developed into bloom the better they will withstand the change to rooms and other positions, especially if preliminary cool treatment can be afforded. Healthy roots, thoroughly moist and maintained so, will render the plants able to endure the rather adverse conditions to which they have hitherto been accustomed.—E. D. S.



A Few Good Late Varieties.

AT no time are flowers more valued than at Christmas, and it is then that most gardeners try their best to have an ample supply. Chrysanthemums are specially grown to produce such, therefore the names of a few sorts not generally known perhaps may be of some use. White is the first desirable colour, as this plays so important a part in decorations at the period named. *Niveus* is, of course, well known, and it can hardly be beaten, but the variety that will, I think, supersede it is *Madame R. Cadbury*. The quality of the flowers is so fine, and it is a sturdy and easy one to grow. *Mrs. C. Bown* has blooms of a green tinted white, but only slightly does the green show itself, and they fade to pure white. This is in every respect a capital variety, so dwarf and free. *Madame P. Rivoire*, *Princess Victoria*, and *Mdlle. Thérèse Panckoucke* are the three oldest, each of which is excellent for late use.

I have discarded the once popular *L. Canning* and *Lady Lawrence*. Either they do not grow so well as they did a few years back, or it is our own fault, but both produce so many flower buds which come "blind" and do not open properly. However, with the sorts named they are not wanted.

In yellows I like *R. Hooper Pearson* better than any. Its blooms are of such a rich yellow, and they have rare substance. The flowers, too, are of pretty form, and the plant so dwarf and sturdy. *Major Bonaffon* has flowers more incurving in shape than the former, and is a really good late variety. Neither *Golden Gate* nor *W. H. Lincoln* is liked so well as the above, although they are still popular. A really good pink is wanted. I think the old generally discarded *Mons. Freeman* still as useful as any. It is so free and dwarf, whilst the shade of colour is pleasing. *Madame Felix Perrin* (*Framfield Pink*) is tall in growth, otherwise it is capital for the purpose of late flowers. *Madame Rosain* and *Etoile de Lyon* are both worth growing, although the former in some hands refuses to do well.

Reds are desirable, but as yet we cannot obtain them. Highly coloured sorts seem to fade more or less after November. The variety *J. Chamberlain* keeps its rich shade as well as any sort I know. *Master H. Tucker* is another most excellent variety late in the year. These two are capital in regard to growth. *Matthew Hodgson* is valued on account of its bushy habit and the rich colour of the blooms. Sometimes we see it with quite a scarlet tint, but in any of its shades it is one of the best for late flowering. *King of the Plumes* is worth mentioning because of its distinct formation. The florets are short and thread-like; in colour a rich orange yellow. It is so free to bloom, and the flowers stand up so well on long stems, that as a late sort for decoration it is commendable. Pretty little things for light arrangements are the *Pompons*—*Snowdrop*, white, and the yellow, sometimes called *Primrose League*. These should be cultivated for late flowering, and they make first-rate miniature pot plants.—S.

Chrysanthemum Boxes.

To every exhibitor of Chrysanthemums a good travelling box for the blooms is of the utmost importance, and doubtless most gardeners, when first making a start at exhibiting the "autumn queen," have experienced some considerable difficulty in making or obtaining a box for their requirements that will carry the large-sized Japanese varieties without any damage. Messrs. W. Wood & Son, Ltd., Wood Green, N., have just made me a box to hold thirty-six Japs that I think will be difficult to improve upon. Ample space is provided the whole way round the box, so that the largest blooms will not touch the sides when placed in their final positions on the show boards. There are two slides fixed to the inside of the box, which allow the show board to go in quite easily, and when once slid into position it is absolutely impossible for the board to move in any direction with the door locked, no matter how much it may be turned about. "The Compactum" show board (another specialty of the firm) is used. This has folding sides, which allow the board to travel level when in the box. The travelling box, and "The Compactum" show boards

are lightly yet strongly made, and will be a boon to both those who have already started or intend to make a beginning at exhibiting this popular flower.—A. J., *Moor Hall, Essex*.

Chatsworth.

As a bush plant Chatsworth is remarkably good when grown without the buds being unduly thinned. Its colour is a pleasing rose pink marked white, and the tiniest bloom comes double. The form generally is better than when the flowers are grown big; and it is late, which makes it valued as a midwinter variety.

Mr. G. Carpenter.

PROBABLY this variety was seen by only a few persons this year, as I believe only one big bloom was grown, and that by Mr. W. Mease, who had it in the back row of his forty-eight at the Aquarium. It is without a doubt one of the best novelties of the season. Of large size and remarkable for its depth, it gives a colour, bright rosy purple, not over-abundant in Chrysanthemums. The form is of the true Japanese, long-petalled and drooping. Raised by the gardener at West Hall, Byfleet, from whom it takes the name, it is a genuine English seedling. This early success should be an inducement to continue in his efforts of cross-fertilisation with a view to still further improve a popular flower.

Pink Madame Carnot.

HAS any grower a good word to say of the above-named novelty, distributed this spring at the modest sum of half a guinea a plant? To ourselves it is disappointing. It is in fact an absolutely indifferent variety, and in the bloom most distinct from the type in other respects besides colour. The shade is barely a pink, but rather a dirty white, and the florets are short and straight, compared to the long, slightly curling, and drooping ones of its questionable parent. There is a resemblance in the foliage, so that it may be a seedling from *Madame Carnot*, but not a "sport," which word caused us to purchase it. Cultivators at a distance from London have to depend so much on catalogue descriptions, and these are sometimes so vaguely worded, that nothing will make me buy another Chrysanthemum novelty without having first seen flowers of the same.—SPECIALIST.

The Rust.

I HAD intended writing my experience with the rust in Chrysanthemums before, but pressure of other work prevented my doing so. In response to "W. S.'s" note on page 509, asking the opinion of others, I am pleased to send mine. No one could have had plants more seriously attacked than ours last season, and I was almost persuaded to burn the lot; but after consideration I decided to give them another trial, which has been fairly successful. I made up my mind to retain my own stock, which had the disease so badly.

I tried different things that had been recommended for it, none of which seemed to have any good effect. At last, it being suggested to me that Jeyes' disinfectant might be a good thing, I decided to give it a fair trial, and there is nothing I have tried that can in any way compare with it, but it must be used with care. When my cuttings were taken they were dipped in a mixture of a wineglassful of the disinfectant to a gallon and half of water; they were then shaken and inserted at once. I had rather an unpleasant experience with my first cuttings. Several had been taken and dipped, when the man was called away, and they were left on the potting bench all night. To my surprise the next morning much of the foliage was spoilt through lying together wet, whilst those which were put in the previous day were not injured in the least. When the cuttings were rooted I had them dipped in the same mixture, and also before shifting into 5-inch pots, and again before putting them in their final pots. After that they were sprayed once a week with the same mixture until the middle of August, then the spraying was done twice a week until just before the time for housing, when the plants were all laid on their sides and well syringed with the mixture. In spraying care was taken that they did not get enough for it to run down the stems to the soil, as I consider it would be injurious to the roots.

I cannot say that I have no rust in any of the plants treated in this way; there may be a dozen that have shown a few spots, but as soon as they were syringed the spores turned black, which shows the effect of the mixture. I can quite agree with "W. S." that the pest is not caused by overfeeding, as my bush plants have been grown in the ordinary way, and they have the disease very badly; these were dipped when potted, and not sprayed afterwards. I am sending some shoots of each for you to see. I think if attended to as above there is little to fear from the disease.—G. LOCK, *Newcombes, Crediton*.

[We congratulate Mr. Lock on his success in combating the rust fungus. The leaves sent were of excellent size and substance, and showed scarcely any signs of infestation.]



Fruit Forcing.

Cherry House.—To have ripe Cherries in April the trees must now be started. Early Rivers, Governor Wood, and Black Tartarian are unsurpassed for size and quality, it being unwise to grow many varieties, as these will give a long succession of fruit. In the case of trees in pots, greater variety may be indulged in, yet there are few to equal those named. Be careful of fire heat at the commencement, not employing it unless absolutely necessary to maintain the temperature at 40° during the night, and 45° to 50° by day, ventilating when the temperature is that, and not allowing 55° to be exceeded without full ventilation. Close the house at 50°. Syringe the trees and other surfaces early on fine afternoons, so as to admit of the buds becoming dry before night. The border will be sufficiently moist through the removal of the roof-lights, if not it must have water to bring it into a thoroughly moist state. Trees in pots, if at all dry, will require repeated supplies of water to insure the thorough moistening of the soil to the base of the pots.

Aphides do not usually appear until the buds swell and growth takes place, but a sharp look out should be kept on the buds, and if there are any minute objects about it is wise to fumigate on two or three consecutive evenings. This will make quick work of the small aphides that may appear from the eggs as a result of the warmth, and repeating the fumigation at intervals of a fortnight or three weeks it is likely there will be few, if any, to infest the growths. Of course, the aphides may come on the wing, but that takes time to arrive at, the eggs, as a rule, being deposited on the Cherry trees in the autumn. The thing is to keep the trees clear of the pests, otherwise Cherries fit for use will not be forthcoming.

Vines.—*Early Forced in Pots.*—Where fermenting materials are employed in the pits and the pots are placed on pillars frequent additions of fresh leaves or sweetened material should be made as the heat declines. The heat about the pots must not exceed 70° to 75°; indeed, that temperature at the base of the pots is sufficient until the buds commence to swell, when the heat may be gradually increased at the roots by placing material about the pots, so as to have it between the degrees named by the time the Vines are coming into leaf. Increase the temperature of the house gradually after the buds are on the move from 55°, so as to have it 60° to 65° by the time the shoots commence developing, allowing an advance of 5° to 10° by day, carefully admitting a little air at 70° and closing early. Disbud as soon as the shows for fruit can be detected in the points of the shoots, reserving the most promising. Stop about two joints beyond the bunches and pinch the laterals from the current growths at the first leaf, or remove them up to the bunches, allowing those beyond to extend as space permits; but this is usually limited in the case of Vines in pots, therefore retain no more foliage than can have full exposure to light, for to encourage more and afterwards reduce it is disastrous.

Moderate moisture only will need to be applied by sprinkling where fermenting materials are employed, and where these are not at command an occasional damping with dilute liquid manure, such as guano, 1 lb. to 20 gallons of water, will be of service, while evaporation troughs should be kept charged with it at half strength. This will give a perceptible smell of ammonia as well as moisture constantly, and modify the dry heat where it is solely derived from hot-water pipes. Water should be given carefully at the roots, as these do not move much until the Vines are in growth, and even then they do not require very copious supplies before the leaves have formed and evaporation from them is considerable.

Early Forced Planted-out Vines.—The buds of Vines started last month, even those subjected to fire heat and forced early in previous years, are now swelling, and need a moist but not very wet condition at the roots. Making the soil sodden by needless waterings is very injurious, retarding instead of accelerating root formation. Raise the temperature gradually, say 2° or 3° in the course of a few days, so as to have it 60° to 65° at night, when the Vines come into leaf, and 70° to 75° in the daytime, with a little air at 70° without lowering the heat, if only for a short time, so as to secure a change of air at least once in twenty-four hours. If the Vines have not been forced before, and are tardy in moving, ripe fruit being required by a given time, growth may be induced by a brisk moist heat of 70° to 75°, continuing it until the Vines have fairly started growing, when the temperature should be allowed to fall to 60° to 65° at night and kept at 70° to 75° in the daytime, it being important whilst the foliage is being made that a moderate temperature be employed, in order to secure short-jointed wood and stout, well developed foliage.

Young Vines that have not been forced before will need more time,

and all young canes must be brought down to a horizontal position, or lower, to insure the buds breaking regularly along the canes. Some well-fermented short stable litter and leaves placed in ridges on the inside border will afford a genial moisture and warmth, and lessen the necessity for syringing, it being a bad plan to keep the rods dripping with water, which greatly accelerates aerial roots in pushing and developing. The outside border should have such protection as will prevent the soil becoming frozen. Where fermenting materials are employed they must not be allowed to become cool, but should have fresh material added, and spent removed as required, so as to maintain a genial warmth, otherwise chill will be productive of more harm than the material rightly used confers benefit.

The Kitchen Garden.

Mushrooms.—The best Mushrooms are grown in a temperature seldom exceeding 55°, and if this warmth is maintained by means of manure beds the crops will be much heavier and more continuous than is usually the case when subjected to the drying effects of fire heat. There is less fluctuation in the temperature when both the sides and roof of the structures are heavily thatched. A moist atmosphere is desirable, and, if necessary, this can be maintained by means of daily syringings of the walls and floors, taking care, however, not to damp the beds beyond what is good for them. Mulching heavily with strawy manure serves to keep the beds warmer and moister, the Mushrooms also apparently growing all the stronger when pressing against a yielding substance. Occasional gentle waterings with tepid water may be given whenever the beds are becoming dry. At this time of the year manure should be prepared in an open fronted shed, and it must be damped often enough in the process to keep it just moist.

Mushrooms without Fire Heat.—Open-air beds have not done particularly well this season, especially where tarpaulins have not been used to ward off the rains. A thick covering, 12 inches, of strawy manure is not too much, as it serves to keep the beds warmer and drier, and therefore in a productive state during moderately cold weather. Beds in unheated structures should be heavily covered with strawy manure. Woodlice are the greatest hindrance to success, especially in dry sheds. Trapping in small flower pots laid on their sides, with pieces of Potato by way of bait, and dry moss to keep them from leaving again, is a slow but fairly effective way of keeping them down. Where, however, they are very numerous, it is advisable to saturate their lurking places, usually against the walls or boards as the case may be, with scalding hot water occasionally.

Tomatoes.—Growth made at this time of the year is usually of a weakly unserviceable description, and neither old nor young plants ought therefore to be forced hard. A temperature of 55° to 60°, and a dry atmosphere, will keep the fruit on old plants swelling or ripening as the case may be without unduly exciting leaf growth, and these old plants will, if so desired, push forth strong early-fruited shoots a few weeks later. Autumn-raised plants, kept in a sturdy healthy state on shelves in a gentle heat, will be most suitable for placing in their fruiting quarters—pots, boxes, or narrow raised borders—early in January. Any still in seed pans may, if well into rough leaf, be placed singly in 2½-inch pots, and given the benefit of gentle heat and a light position, will become sufficiently strong to place in their fruiting quarters four to six weeks later. These young plants, under ordinarily good treatment, should produce valuable crops of fruit early in May and June. More seed may be sown the first week in January, and the resulting plants if need be may also be made to produce good crops of fruit in May.

Seed Potatoes.—The mild weather experienced this autumn, and which is extending into the winter, has tended to promote early sprouting in the case of Potatoes generally. If this is allowed to continue it will have a most weakening effect upon the tubers. Premature sprouting should be prevented by storing the tubers thinly in light and cool positions. Shallow trays with raised blocks in each corner are excellent for the purpose. Packed closely together, sprout end uppermost, and the trays disposed above each other by means of the blocks in an outhouse or room, it is astonishing what a large quantity of Potatoes may be stored in very little space. Let all the light and air possible reach the tubers, taking the precaution to cover with mats or paper whenever severe frosts are imminent.

A Vegetarian Bazaar.—A vegetarian bazaar was held in the Memorial Hall, Farringdon Street, on Saturday, which was in every way successful. Mr. A. F. Hills, the shipbuilder, a prominent leader in the vegetarian movement, delivered an address, advocating the adoption of a purely vegetable diet, and supported his argument by citing instances of the wonderful advancement made abroad, and particularly in the colonies, in vegetarian teaching and practice. The Viscountess de Panama declared the bazaar open, and brisk selling commenced at once. The stalls were charmingly decorated, and contained anything from needlework to sweetmeats, but never a suggestion of anything for which an animal had paid the death penalty to furnish. Among the visitors was Dr. Josiah Oldfield, whose hospital at Loughton, the Oriole, is doing highly instructive work in the treatment of diseases by open air and vegetarian diet.

Young Gardeners' Domain.

The R.H.S. Examinations.

I AM greatly interested in the discussion *re* R.H.S. examinations, and think it a subject that should be thoroughly threshed out. I re-echo the question of your correspondent on page 498, Is it any advantage to gardeners to obtain a first-class certificate? With the present state of things it certainly does not guarantee a suitable place where he can put his scientific knowledge to account. To my way of thinking such will never be the case. Gardening appointments are generally made over the dinner table, and I think the time is far distant when employers will go to any institution or college for their gardeners.

There can be no doubt that men who combine a scientific with a practical knowledge of the profession must be able to do their work easier and with more satisfaction to themselves. Therefore, I say get hold of as much of the theoretical side as possible, but do not be led away with the idea that the fact of possessing such will lift you into any of the well paid posts. I have been informed lately by men of repute that young gardeners who take a real interest in their work are getting decidedly scarce, and in years to come a good man will have no difficulty in securing a first-class place. We young ones must hope that such will be the case. I think we need not fear any great competition from the ladies.—H. C. D., *Stanmore*.

THE BEE-KEEPER.

Protection for Bees.

PROTECTION for bees in some form or the other is necessary if the best results are to be obtained. It is surprising how well bees will sometimes winter in a makeshift hive if sheltered from the cold winds. Protection is required quite as much from dampness as from a low temperature. If the roofs are not thoroughly waterproof the bees will soon suffer, and if it is not remedied dysentery will set in and the colony will deteriorate rapidly. We have in previous notes stated how easily roofs may be made waterproof by covering them with zinc. This is a plan we recommend for all new roofs. But when existing roofs leak it is a good plan to strain a piece of calico over the whole roof and paint it a couple of times. This is an inexpensive way of keeping the roof in good condition.

If the bees have not sufficient covering on the top of the frames they will suffer from lack of warmth. Any warm material will answer the purpose. We prefer old pieces of carpet or sacking, as it is porous and warm. But if these are not conveniently to hand, paper may be used with advantage. If several pieces are placed on the top of the other coverings and weighted down with a board, the bees will winter well, and will stand a long spell of cold weather if provided with stores.

The one point to bear in mind at all times, but more especially when preparing for the winter, is to see that the quilt is placed carefully over the tops of the frames, so that no crevices are left for an escape of heat from the hive. Bee-keepers who are nervous whilst handling bees often make the mistake of only partially replacing the quilt and coverings. The consequence is the bees take possession of the roof, as it is impossible for them to do well when there is a constant draught through the brood nest. It is most important when colonies are examined in preparation for covering up for the winter that the work should be carefully done, so that if the bees are well supplied with stores they may reasonably be expected to come out strong and healthy the following spring.—AN ENGLISH BEE-KEEPER.

The Widening of Piccadilly.—A correspondent writes to the "Morning Post" pointing out what the proposed widening of Piccadilly actually means. "It means," he says, "the destruction of every tree on the southern pavement, of every tree in the Green Park within 15 yards of the present railings, and of every tree at the corner of the park between the arch on Constitution Hill and the first gate to the eastward of it. The destruction of trees will not end there, for in forming the slope away from what will be the new level from the south side many more trees will be partially buried, which will lead to their ultimate destruction. What are we to gain by all this lamentable destruction of tree life? First, we shall have the capacity of Piccadilly from Walsingham House to Hyde Park Corner practically doubled. Consequently, it will be capable of holding nearly twice the amount of vehicles it now holds. But the capacity of the necks of the bottle, so to speak—that is to say, the part of Piccadilly from Walsingham House to the Circus going east, and the narrow part by Albert Gate going west—will not be increased by 1 inch. As a consequence, the congestion and crush at these two ends will be nearly twice as bad as it is at present."

Trade Catalogue Received.

J. Veitch & Sons, Ltd., Chelsea.—Seeds, Chrysanthemums, Carnations, and Picotees, and Fruit.



All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Wireworm in Soil for New Vinery of Muscat Grapes (W. A. A.).—You will find reply on this subject on page 544.

Farming for Profit (W. E. M.).—There is no such ready road to wealth by farming, or land would now be unobtainable. An acre of hothouses would hardly realise such a sum in the gross, and it would be gardening, not farming.

Book on Carnations (H. W.).—You will probably find the "Carnation Manual," published by Messrs. Cassell & Co., La Belle Sauvage, Ludgate Hill, London, on behalf of the National Carnation and Picotee Society, most valuable. You will be able to procure it from Mr. T. E. Henwood, Auricula Villa, 16, Hamilton Road, Reading, who is the honorary secretary of the society named.

Planting Ranunculuses (J. L. A.).—The soil should be retentive of moisture. If the soil be thought too poor a small addition of decayed cow manure would be advisable. Let it be thoroughly mixed with the soil whilst making the bed in dry weather. Some time about the end of February or the first week in March, rake the surface of the bed in the morning of the day previous to that fixed upon for planting. Commence by drawing with a hoe a drill across the end of the bed, 1½ inch deep; if deeper the roots will be weakened the succeeding year, by forming a kind of stem nearer the surface; and if shallower, the plants are more liable to be damaged by drought. The drill being drawn the right depth press each tuber slightly down into the ground; plant them, if large, 4 inches apart in the row; if small, 3½ inches will be a sufficient distance. Cover the crown of each tuber with fine sand. This will cause the tubers, when they are taken up in July, to come out of the ground quite clean for keeping. Then, with a short-toothed rake, draw the soil over the bulbs, and when it is level, with the head of the rake gently press the soil pretty closely upon them.

Spots on Pelargonium Leaves (A. G. H.).—The leaves are suffering from what is generally called "spot," a kind of mildew, which appears as brown and yellow rings through the leaves, and arises from one of two causes—either from the roots being too dry, or, which is more generally the case with plants in greenhouses at this time of the year, from want of sufficient heat and air; in other words, the houses are kept too close and damp. Often, by way of remedying the disease, the plants are not watered, which tends to make the disease worse, as a proper balance is not kept up between the action of the roots and the leaves. Plants at this period are more liable to the disease, owing to the amount of moisture in the air and a corresponding want of sun. The remedy is to give more heat, dust the plants with sulphur, and keep up sufficient root action, giving the plants at the same time all the light possible, with good ventilation. By ventilation we do not mean cold draughts of air, but sufficient warm air to encourage healthy action both in the leaves and roots.

Combretum not Flowering (Tyro).—The probable reason of the plant not flowering is that the position is shaded and the wood does not become thoroughly ripened. The wood of the previous year should be well ripened, growth being encouraged at the early part of the year, and when this is complete apply less water; in fact, keep the plant dry, so as not to cause the leaves to flag, and in the winter it should be kept dry at the roots, but not dust dry. In February, or when the buds begin to swell, it should be pruned. Reduce the side shoots to two eyes, and shorten those required for extension to the extent of one or two-thirds of their length, according to the strength and ripeness of the wood. The plant is encouraged to break by keeping it moist, and sprinkling twice daily, but only keeping the soil moist; and when the young shoots are an inch or two long repot, removing the soil coming away freely from the roots, and giving a moderate shift. Place it in a good sized pot in the spring, using equal parts of fibrous loam and sandy peat, with a fourth of leaf soil and a fifth part in equal proportion, of pieces of charcoal, from the size of a pea to that of a hazel nut, cracks broken up rather small, and silver sand.

Abnormal Buds on Black Currants (W. H.).—The specimens forwarded are badly infested with the Black Currant bud mite (*Phytoptus ribis*), in the eradication of which many hundreds of experiments have been tried without any practical success. There is ample proof that the mite is lurking in the buds by November, but it is during the spring when by their feeding between the young leaflets, abstracting their sap, they effectually stop the development of flowers, leaves, and twigs. As Mr. Andrew Murray remarks, "the buds attacked are seen to languish and decay, or to assume a rounded swollen form without pushing out ('knotted,' some correspondents style it). On tearing open one, hundreds of very small semi-transparent moving things may be seen by a lens. All the surface of the leaflets on which they are scattered has a moist, raw-like appearance; in fact the *Phytopti* have browsed on it until they have flayed it to the quick." Close and severe pruning is the method suggested by this author for the diminishing of their numbers, but he scarcely thinks their extirpation can be thus brought about. Syringing or washing the bushes with one of the many solutions or compounds that are efficacious for the destruction of insects might clear some of them out of the expanding buds in spring, but would not save the buds from dying off. Then the bushes where the mite has been observed might be also syringed early in the autumn, since there may then be a migration from bud to bud. Bushes infested with this destructive mite should never be propagated from. Young trees should be procured that are perfectly clean and healthy, and be planted as far distant as possible from those affected. The note on page 563 on this subject will be of interest to you.

Pruning Vines in Vinery from which Frost is not Excluded (Young Gardener).—It is not only safe but also a proper time to prune the Vines when the leaves are all off, though it is advisable to wait a few days until the sap has thoroughly receded, as it does effectively for pruning purposes when the weather is cold. The frost will not affect the Vines any more when pruned than when unpruned, and they will not be jeopardised by the frosts of an ordinary winter, as many Vines exist in unheated, and also orchard houses. If the Vines are of the tenderer varieties, such as Muscat of Alexandria, it would not be advisable to subject them to very severe weather, though we have not known any injury to be done to them by the keenest frosts. It is well, however, to be on the safe side.

Large and Coarse Beet (E. T. H.).—Cheltenham Green-top Beet is one of the best, the roots being medium sized, fine shaped, with bright red flesh. We can only account for many of the roots being "big and coarse" through the richness of the soil, the manure applied in the previous autumn not being thoroughly reduced by the time the Beet seed was sown, and thus inducing too rank growth. We suggest sowing in ground that was manured for a previous crop, not applying any for the Beet unless the land be poor, and then supplying well decayed manure in the autumn or very early spring before sowing, incorporating with the soil. If you sow the seed for the winter crop at the end of May or early in June, as we have sometimes done under similar circumstances, it is certain the Beet would not attain to so large a size. Nutting's Dwarf Red is an excellent variety, with roots of medium size, rich dark colour, and splendid quality.

Propagating Pampas Grass (B. P.).—Pampas Grass is best raised from seeds, which should be sown in the spring in a good loamy soil, and the seeds should not be more than just covered with soil. The pot or pan may be placed in a mild hotbed, or in a house where there is a gentle heat, and the soil should never be allowed to become dry. When the plants are up they cannot have too much light and air; and when they have grown sufficiently they should be potted and removed to a cold frame, keeping them close and shaded for a few days, then

expose them fully to light and air. Pampas Grass likes a rich, rather strong, loamy soil enriched with leaf mould, and an open yet sheltered situation. Though delighting in moist soil and abundant supplies of water, it does not succeed in undrained ground, or where the water becomes stagnant in the subsoil.

Planting Fruiting Canes Between Permanent Vines (W. A. A.).—It is a common and very desirable practice to plant what are termed supernumeraries between the permanent canes in a vinery. They are allowed to make a good growth the first season, the laterals being pinched at the first leaf, and the sub-laterals to one joint as made, the cane being stopped at 8 to 10 feet. Thus strong and well-matured canes are secured for fruiting heavily in the following season, each Vine being allowed to carry as many bunches of Grapes as it is calculated to bring to a good finish. After this heavy cropping the supernumerary Vines are removed.

But by a fruiting cane we assume that you wish for a crop in the year of planting. This practice is sometimes resorted to, and is rather expensive on account of the higher price of the Vines, but it is sound in principle, and we consider the Vines in such case are best in pots, standing the pots in the border and allowing the roots to pass into the soil. The crops are usually better for the extra root run and feeding. When grown in pots there is no interference with the border, it being simply a matter of cutting off the roots and removing the fruited Vines.

Holly and Quick Hedge (J. E. H.).—An equal quantity of Quicks and Hollies, planted alternately, make an excellent hedge, the distance being 6 inches from plant to plant. The Quicks, however, outgrow the Hollies, it being necessary to trim in the former, and also the Hollies at the sides, so as to push them up, and cut the tops to an even surface about August in each year. The ground should be trenched a yard wide where the fence is to be, and a liberal amount of well decayed manure mixed in. If the subsoil be of an unfavourable nature leave it at the bottom, but stirred and manured, keeping the good soil on the top. May is the best month for planting Holly, but not for Quick, therefore choose moist weather in the early spring for planting, the roots of the Holly not being exposed to the air more than can be avoided, and be particular to have them recently transplanted. The best fences we have ever seen were formed by planting seven Quicks and one Holly per yard run, the Quicks forming a good fence in four years, and the Hollies sprinkling it with evergreen, ultimately forming the major part of the hedge as the evergreen overcame the deciduous plants.

Challenge Cup Classes at Shows (Not Satisfied).—If any departure is desired by show authorities from the ordinary course of awarding the prizes offered, such departure, to be valid, must be made clear in the schedule. For instance, in

cup classes or special prize classes it is not uncommon to stipulate that the cup or prizes cannot be won unless there are at least two, three, or more competitors, as the case may be. In the absence of any special conditions attached to a cup or other class, the usual routine is followed, and any awards made by the judges can be claimed by the winners of them as a matter of right, provided the prize cards are attached to the exhibits when the show is open to the public. Before that time the judges can, in their discretion, revise any awards, and re-arrange prize cards accordingly. It is sometimes necessary to do this, as when certain exhibits, through misplacement or other cause, have been at first overlooked by the adjudicators, but subsequently discovered. When a cup is offered to go with the first prize in a class to which no special condition is attached, the exhibitor to whom such prize is adjudged takes the cup as part of the prize, whether he is the only exhibitor in the class or not. If it is the first win of a challenge cup, to be won twice or thrice for final possession,



FIG. 147.—BIG BUD IN BLACK CURRANTS.

he, or some appointed representative, holds it for the time specified. There is nothing whatever in the schedule before us to debar your right to the first win of the cup. The mere offering of a challenge cup does not, in itself, carry any obligation that there must be more than one exhibitor for the purpose of winning it. Whoever enters, "challenges" any others to come and defeat him. You did all that the rules demand. There is nothing stated or implied in them that there must be more than one exhibitor in the class. The judges were empowered to "reduce or withhold prizes," and as they appear to have done neither the one nor the other in your case the cup would naturally go with the prize. If the other competitor was under the impression that the prize could not be won unless he staged against you, he was in error. If you had withdrawn your exhibit and his remained, he would have been the winner if the judges had deemed his products worthy, and therefore neither "reduced nor withheld the prize." Now are you "satisfied?"

Pruning Peach Trees (Amateur).—It is customary to shorten the shoots in all cases where a good wood bud can be had to cut back to. Usually such buds are between two bloom buds, but care must be taken to insure this, and it is better to delay the pruning until these show themselves with certainty. If there be plenty of wood well furnished with bloom buds on the tree, you may cut away the gross shoots entirely, unless one should happen to be where it is wanted to furnish a naked part of the tree. It is, however, sometimes necessary to leave shoots their full length when trees are not furnished with wood buds, and this is often the case in trees not overhealthy, as there are generally one or more buds at the points which are certain to grow. We must also caution you against leaving fruit on a branch that has not a leading shoot, for although the blossom will set and the fruit will advance to a considerable size on such shoots, it will not arrive at maturity, and will, therefore, only exhaust the tree and cause disappointment.

Names of Fruits.—*Notice.*—We have pleasure in naming good typical fruits (when the names are discoverable) for the convenience of regular subscribers, who are the growers of such fruits, and not collectors of specimens from non-subscribers. This latter procedure is wholly irregular, and we trust that none of our readers will allow themselves to be made the mediums in infringing our rules. Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit or flowers to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. They should be sent on the first indication of change towards ripening. Dessert Pears cannot be named in a hard green state. The practice of pinning numbers to the eyes of the fruit tends to destroy one of the most characteristic features and increases the difficulty of identification. When Plums are sent to be named young wood of the trees should accompany them. Leaves of the trees are necessary with Peaches and Nectarines, with information as to whether the flowers are large or small. (A. W. G.).—1, Gascoyne's Scarlet Seedling; 2, Cobham; 3, more closely resembles Beauty of Hants than any variety with which we are familiar; 4, Emperor Alexander; 5, Hoary Morning; 6, Baumann's Red Reinette. (B. T.).—The Apple is Sturmer Pippin and the Pear Nouvelle Fulvie. (C. P.).—1, Marie Louise; 2, Délices d'Hardenpont; 3, Maréchal de Cour. (W. T. R.).—1, Golden Reinette; 2, Fearn's Pippin; 3, Foster's Seedling; 4, Leathercoat; 5, Aromatic Russet; 6, Tower of Glamis. (J. H.).—1, Lord Derby; 2, Mère de Ménage; 3, Sandringham; 4, Bramley's Seedling; 5, Newton Wonder; 6, Beauty of Hants.

Names of Plants.—We only undertake to name species of cultivated plants, not wild flowers, or varieties that have originated from seeds and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in securely tied firm boxes. Thin paper boxes arrive in a flattened state. Slightly damp moss, soft green grass, or leaves form the best packing, dry wool or paper the worst. Those arrive in the best condition that are so closely or firmly packed in soft green fresh grass, as to remain unmoved by shaking. No specimens should be sent to rest in the post office over Sunday, on which day there is no delivery of postal matter in London. Specimens in partially filled boxes are invariably injured or spoiled by being dashed to and fro in transit. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (A. L. S.).—1, Peperomia magnoliaefolia; 2, Miconia species (better specimen required to determine species); 3, Selaginella Martensi; 4, Selaginella erythropus; 5, Adiantum hispidulum; 6, Hoffmannia Ghiesbreghtii. (W. J. G.).—Cyperorchis elegans. (F. L.).—1, Kentia canterburyana; 2, K. Belmoreana; 3, Seaforthia elegans; 4, Phoenix rnpicola; 5, Kentia Fosteriana; 6, Geonoma gracilis. (G. S. N.).—1, Adiantum gracillimum; 2, Doodia aspera; 3, a Polypodium, species undeterminable. (W. J.).—Cymbidium giganteum. (A. E. W.).—1, Pellionia pulchra; 2, Pellionia Daveauana; 3, Croton, unable to name, should be sent to a trade grower; 4, Polygala myrtifolia var. grandiflora; 5, Mimulus (Diplacus) glutinosus.

Covent Garden Market.—December 19th.

Average Wholesale Prices.—Fruit.

	s. d. s. d.		s. d. s. d.
Apples, table, $\frac{1}{2}$ bush. ...	2 0 to 4 6	Melons, house, each ...	0 6 to 2 6
" cooking, bush. ...	1 6 5 0	Oranges, case ...	6 0 15 0
" Californian, case ...	7 6 9 6	Pears, crate ...	3 0 7 0
Chestnuts, bag, from ...	5 0 15 0	" stewing, case of	
Cobnuts, doz. lb., best ...	4 0 5 0	72 to 120 ...	4 6 6 6
Grapes, black ...	0 6 2 6	" Californian, case	4 0 9 0
" white, per lb. ...	1 6 5 0	Pines, St. Michael's, each	3 0 6 0
Lemons, case ...	9 0 16 0	Walnuts, bag ...	4 6 6 0

Average Wholesale Prices.—Vegetables.

	s. d. s. d.		s. d. s. d.
Artichokes, green, doz. ...	1 6 to 2 6	Mushrooms, forced, lb. ...	0 9 to 1 0
" Jerusalem, sieve	1 6 0 0	Mustard and Cress, pnnt.	0 2 0 0
Asparagus (Sprue Grass) ...	0 8 0 0	Onions, Dutch, bag ...	4 0 4 6
" Paris Green ...	4 6 5 0	" English, cwt. ...	5 0 0 0
Beans, French, per lb. ...	0 4 0 0	Parsley, doz. bnchs. ...	2 0 0 0
" Jersey, per lb. ...	1 6 2 0	Potatoes, cwt. ...	3 0 7 0
Beet, red, doz. ...	0 6 0 0	Rhubarb, doz. ...	2 0 2 6
Brussels Sprouts, sieve ...	0 9 1 6	Savoys, tally ...	2 0 3 0
Cabbages, tally ...	3 0 5 0	Scotch Kale, per bushel ...	0 9 1 0
Carrots, doz. bnch. ...	2 0 3 0	Seakale, best, doz. ...	18 0 21 0
Cauliflowers, doz. ...	1 6 3 0	" 2nd, doz. ...	6 0 8 0
Celery, bundle ...	1 0 0 0	Shallots, lb. ...	0 2 0 3
Cucumbers, doz. ...	9 0 18 0	Spinach, bush. ...	1 0 1 6
Endive, score ...	1 6 0 0	Tomatoes, English, lb. ...	0 4 0 7
Herbs, bunch ...	0 2 0 0	Turnips, doz. ...	2 0 3 0
Leeks, bunch ...	0 1 0 0	Turnip tops ...	0 9 1 0
Lettuce, doz. French ...	1 0 1 6		

Average Wholesale Prices.—Cut Flowers.

	s. d. s. d.		s. d. s. d.
Asparagus, Fern, bunch	1 6 to 2 6	Lilac, white, bunch, ...	4 0 to 6 0
Carnations, 12 blooms ...	1 0 3 0	Lily of the Valley, 12 bun.	6 0 15 0
Cattleyas, doz. ...	10 0 18 0	Maidenhair Fern, dozen	
Chrysanthemums, dozen		bunches ...	4 0 8 0
blooms ...	1 0 3 0	Marguerites, doz. bnchs.	2 0 4 0
Daffodils, doz. ...	15 0 20 0	" Yellow, doz. bnchs.	2 0 4 0
Eucharis, doz. ...	3 0 5 0	Mimosas, bnch. ...	1 0 1 6
Gardenias, doz. ...	3 0 5 0	Odontoglossums ...	6 0 8 0
Geranium, scarlet, doz.		Poinsettias, doz. blooms.	6 0 10 0
bunches ...	9 0 15 0	Roses (indoor), doz. ...	2 0 4 0
Hyacinths, doz. ...	4 0 8 0	" Safrano, doz. ...	1 6 2 0
Lilium lancifolium album	1 6 2 6	" Tea, white, doz. ...	1 0 3 0
" rubrum	1 6 2 6	" Yellow, doz. (Perles)	2 0 4 0
" various ...	2 0 3 0	Smilax, bunch ...	3 0 5 0

Average Wholesale Prices.—Plants in Pots.

	s. d. s. d.		s. d. s. d.
Acers, doz. ...	12 0 to 24 0	Foliage plants, var., each	1 0 to 5 0
Arbor Vitæ, var., doz. ...	6 0 36 0	Geraniums, scarlet, doz.	6 0 10 0
Aspidistra, doz. ...	18 0 36 0	" pink, doz. ...	8 0 10 0
Aspidistra, specimen ...	15 0 20 0	Hydrangeas, white, each	2 6 5 0
Azaleas, various, each ...	2 6 5 0	" pink, doz. ...	12 0 15 6
Boninas, doz. ...	20 0 24 0	" paniculata, each	1 0 3 0
Cannas, doz. ...	18 0 0 0	Lilium Harrisii, doz. ...	8 0 18 0
Crotons, doz. ...	18 0 30 0	Lycopodiums, doz. ...	3 0 6 0
Dracæna, var., doz. ...	12 0 30 0	Marguerite Daisy, doz. ...	8 0 10 0
Dracæna, viridis, doz. ...	9 0 18 0	Mignonette, doz. ...	8 0 12 0
Erica, various, doz. ...	8 0 18 0	Myrtles, doz. ...	6 0 9 0
Euonymus, var., doz. ...	6 0 18 0	Palms, in var., each ...	1 0 15 0
Evergreens, var., doz. ...	4 0 18 0	" specimens ...	21 0 63 0
Ferns, var., doz. ...	4 0 18 0	Roses, doz. ...	6 0 18 0
" small, 100 ...	4 0 8 0	Stocks, doz. ...	8 0 12 0
Ficus elastica, each ...	1 6 7 6		



Winter Rations for Stock.

WE mean to treat principally of horned stock; in fact a paper would assume too great a length if we went into generalities. We all know the story of the successful painter who mixed his painting pigments with brain, and we all know in our own immediate circle those who feed well and cheaply and those who stint and starve, and, therefore, do not feed at all, and those who lavishly overdo the thing. The papers just now are full of reports of live fat stock shows, where the very primest of prime beef is on exhibition preparatory to Christmas consumption. We do not aspire to that rank of producers; we are much more humble. We are glad to satisfy the local butcher (and personally we prefer medium fat beef to the very tip top) to

keep our young growing stock in condition, and to keep up an excellent supply of milk.

There is no more delightful sight than a yard full of well doing beasts, quiet and contented, with the well filled tumbrel and the yellow straw plentifully bestrewn all over. There are many ways of utilising and making the most of food stuffs, but we do honestly disapprove of foisting on cattle any damaged commodity. It is poor economy to give mouldy hay, spoiled straw, smutted, rusted, or diseased grain, cake that has gone wrong, and meal that through damp or other cause is unpleasant to taste or smell. It is all very well to disguise the objectionable food by spice or treacle, or steaming; it is there all the same, and though bad effects may not be directly visible, the digestion is injured more or less, and valuable time is lost. Time is money, and the clever feeder uses those stuffs that most quickly produce beef.

We heard recently of a large north-country farmer who was feeding 188 beasts to go off between October and turning out time. He is a master in his art, and his plan was to have the beasts split up into lots of eight or nine in small open yards well provided with shedding. We are not sure that open yards with shelter are not preferable to those entirely covered in. The rations were Turnips, but such Turnips as are only grown in lands beyond the Tweed, and then only in favoured spots, and meal—no cake. The meal was of various sorts, such as could be profitably bought at the time. The animals are well bedded, and that by women who carry the straw direct from the machine tail to the yards.

About this meal, we cannot help thinking that, good as it is, it is an awkward food to deal with; there must be somewhat of waste. Cake is compact and easily portable, and the dust from the crushing machine, which is not excessive, makes good porridge. We read only the other day that balls of oatmeal were the finest thing for just putting the top-dressing on prize fat stock; that is going back rather to the compressed form. We know there is a great objection in some minds to roots for fattening cattle. Here again so much depends on the quality of the roots. Some land produces a Turnip or Swede of infinitely better quality than others will; this all has to be taken into consideration, and no hard and fast line can be laid down.

Of course, on some farms we find good hay plentiful, and it makes of itself a fine feeding stuff. Then again take a wold holding where there is practically no hay, what must be done? The animal requires bulk, and that bulk cannot be supplied entirely by meals or cake. Cake and meal vary in price almost from week to week, and a farmer must study current price lists if he would buy to the best advantage.

There is something more than the fattening to consider, there is the value left in the form of manure, and this manure is influenced by the food given. Sir John B. Laves laid great stress on this point—i.e., a quick and ready feeding dietary that left the greatest possible value in the form of manure.

A point of great importance in feeding stock of every kind is regularity. If the meal be delayed the animal gets restless and impatient. Another point is a clean crib. We should never think of taking dinner off a dirty breakfast plate. Indeed, should there be a residuum of food in the crib or manger there is a fault somewhere; either the beast is out of sorts or the food is not what it ought to be, or else the yard man deals out victuals with too lavish a hand. There should be a variation in the food, and above all a bit of salt ought not to be forgotten. Decorticated cotton cake is now so well prepared that there is no danger attending its use. Linseed cake and beanmeal, Wheat bran, dried grains are all fine foods given in conjunction with hay or silage.

Young growing cattle are not so expensively fed, and with them we find the great value of pulp and cut meat. All sorts of good chaff cutters and pulpers are in the market, and their use conduces greatly to the economy of straw, which certainly this year is a scarce and dear article, while, at the same time, the Turnip and Swede crop is most abundant. It is a great mistake to "tender" young stock by too much pampering, either of the stomach or of the constitution. They have to turn out in May, and the hot, close, covered yard is not the best preparation for the bitter cold we often experience in that month. Neither are they any better for a course of rich concentrated foods. Plenty of plain food and roomy open yards are what they need. Now for the cow question. Is it a case for butter alone, or is it a case of the milk trade? But why need there be any difference? Every need—

For milk selling, quantity is required. It is not absolutely necessary to have so much butter fat as to have the liquid, and food that will not affect the flavour of the milk will have a most decided influence, and not a nice one, on the butter.

Mr. Smith, manager of Scottish Dairy Supply, furnishes us with some excellent tables and rations, and we feel we cannot do better than quote him. He presupposes a good cross-bred commercial cow, well developed, and of strong constitution.

To produce 3 gallons of milk per diem he would allow:—

70 lbs. brewers' grains, well salted,
4 lbs. treacle,
4 lbs. bean or pea meal,
10 lbs. hay,
40 lbs. Turnips, Mangolds, or grass.

To produce 2 gallons per diem:—

28 lbs. brewers' grains, equal to 9 lbs. dried grains.
2 lbs. treacle,
4 lbs. pea or bean meal,
2 lbs. cotton cake,
10 lbs. hay or sound oat straw,
35 lbs. Turnips or Mangolds.

The meal, cake and treacle should have boiling water poured over them, and afterwards mixed with dried grains salted, and given in a sloppy condition.

For first class butter:—

7 lbs. dried grains,
6 lbs. cotton seed meal,
2 lbs. crushed oats,
2 lbs. bean or pea meal,
2 lbs. wheat bran,
7 lbs. hay or sound oat straw,
28 lbs. cooked roots, Mangolds or Turnips.

The first four ingredients should be scalded with boiling water and given in a sloppy condition. In no case should linseed meal or linseed cake be given to cows for butter making; neither is it profitable to give linseed cake to milch cows for any purpose except for the butcher. This is Mr. Smith.

We will give now a milk ration from the Experimental Farm, New Jersey, U.S.A.:—

30 lbs. silage,
5 lbs. Timothy hay,
4 lbs. wheat bran,
4 lbs. dried grains,
2 lbs. linseed meal.

We think any words of ours are unnecessary. The last-mentioned ration is much approved by Professor Long.

Work on the Home Farm.

The rain has ceased, apparently! Sincerely do we hope so. The land is absolutely sodden, and it will be many weeks before we see the cultivator and harrows again at work. Even the old seed land, which is yet to be manured for Potatoes, is so soft that the cartwheels cut through very deeply, and make very heavy work for the horses.

The manure must be put on and ploughed in, although the conditions for ploughing will be anything but ideal. Let us hope that a good spell of frost will follow the ploughing and remedy all defects. Frost is a wonderful rectifier of shortcomings on the ploughman's part.

The wet has already had our desired effect on the corn markets, which are all very firm, and Barley is quite 1s. per quarter dearer. Coals are a little cheaper, and a good thing too, for a farmer cannot afford to give a quarter of Barley for a ton of coals.

We have held off buying as long as possible, but a supply must now be got in, and leading the fuel is employing a couple of carts. The roads are heavy, but it is easier work for these horses to bring 24 cwt. of coals from the station than for the others to cart 1 ton of manure on to the land.

There is still great dearth of labour, even beaters for the pheasant shooting being very difficult to obtain. In an adjoining parish the army of beaters assembled to drive the covers at 3s. per day struck for 3s. 6d., and got it, the guns being ready for the sport and the host not being in the humour to disappoint them. Perhaps he will have his turn at the next shoot and get a fresh lot of beaters, but we candidly confess that we cannot see where he is to find them. If all the possible men be spared from farm, woods, and estate there would not be half enough, and the farm tenants certainly cannot lend any unless it be for an occasional day.

Pig killing is an everyday occurrence in the parish now, but the weather is far too mild to be favourable to good curing, and there will probably be complaints of bad bacon later on. Working men, however, like to have their bacon in the house before Christmas, and have more regard for the almanack than for the weather. Some country people aver that bacon does not cure well during the fall of the moon, and they also have an impression (we will call it that) that bacon cured at the rise of the moon increases in the boiling, and is therefore more thrifty.

Russian Crop Reports.—The Central Statistical Bureau at St. Petersburg estimate the winter and spring crops in sixty-four departments of European Russia for this year as follows:—Wheat, 658,800,000 poods; Rye, 1,401,700,000 poods; Oats, 721,600,000 poods; Barley, 309,500,000 poods; Buckwheat, 54,500,000 poods; Millet, 105,100,000 poods; Maize, 53,300,000 poods; Spelt, 15,300,000 poods; Peas, 43,600,000 poods; Potatoes, 1,565,000,000 poods. [A Russian pood is 36 lbs. in weight.]

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Journal of Horticulture.

THURSDAY, DECEMBER 27, 1900.

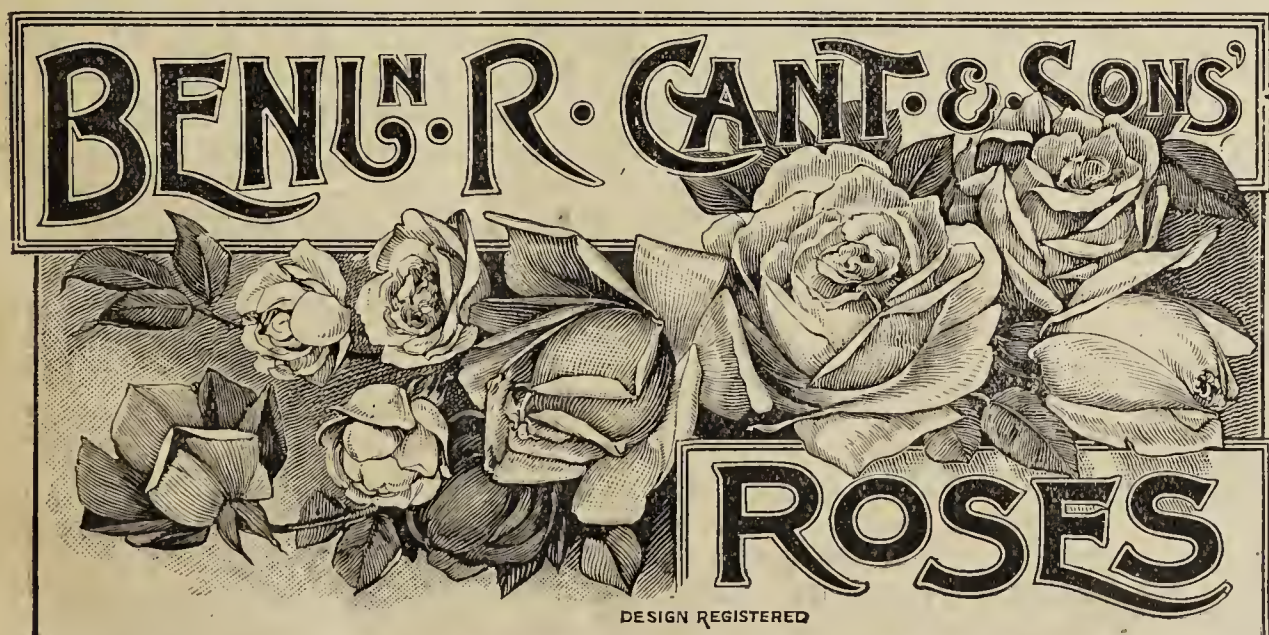
Hints about Bulb Forcing.

THE season is now close upon us when we shall have to depend to a great extent upon bulbous plants for a supply of flowers. January and February would be dull ones indeed in our gardens were we deprived of the gorgeous flowers obtained from forced bulbs. A few remarks upon their treatment will, therefore, I think, be of service to readers of the *Journal of Horticulture*.

At Christmas, and during the early part of January, Roman Hyacinths, Duc Van Thol Tulips, and Lily of the Valley are usually much in evidence wherever large quantities of cut flowers are required. By the end of the month we get Narcissus princeps, double Daffodils, and such fine varieties of Tulips as Yellow Prince and White Pottebakker. By the end of January, Narcissus princeps and double Daffodils may be had in flower in quantity. Throughout February there is very little difficulty in maintaining an abundant supply of flowers from various kinds of bulbs, but during the next six weeks slight mistakes in management will often cause whole collections of bulbs to turn out almost worthless.

Taking the plants into heat before plenty of roots and a good amount of top growth have been made is well known to be a common cause of failure, but there are many other mistakes which also contribute to similar unsatisfactory results. When placed in strong bottom heat Tulips often refuse to start, the young shoots get green and thicken, but do not unsheath their leaves. In other instances the leaves grow freely, but no flowers appear. Close examination may then reveal the fact that flower buds have gone blind, or have shrivelled up completely. In all such cases the roots, if examined, will generally be found browned or dead. A gentle bottom heat helps to start all kinds of bulbs, but too much is a

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TELEGRAMS—"BEN. CANT, COLCHESTER."

delusion and a snare; so also is a very high top temperature, one ranging between 60° and 65° is quite as high as it is safe to give.

In some gardens, where the houses are not fitted with the most modern appliances in the way of chambers with hot-water pipes for supplying bottom heat, early forcing is conducted at a disadvantage, but by the exercise of a little ingenuity some way may usually be found to secure the desired results. In houses where the pipes are arranged under the stages, a plan I have found to answer admirably is to place the pots or boxes on them, cover the bulbs for a time with sheets of paper, and, when the shoots have grown a couple of inches, remove the covering. When managed on these lines, it is necessary to see that the soil never gets too dry, or many of the young roots will be killed. Under ordinary circumstances I find water is needed every day, and, if applied through a rose, it helps to insure even distribution, and also prevents the soil from being washed away. This watering through a rose I always recommend for bulbs, as my observation has taught me that progress under such conditions is usually thoroughly satisfactory. After the green colour comes in the young leaves or shoots, remove the plants to a stage or shelf where the advantage of full light is secured, to give substance and colour to the flowers.

The above remarks apply principally to Tulips, but early stocks of Roman Hyacinths succeed well under similar conditions. From Christmas onwards, however, bottom heat is seldom required. Plants set on stages or shelves in a house when the temperature ranges from 55° to 65° come on quickly enough. A point in connection with Roman Hyacinths, which does not receive as much attention as it should, is that the flowers ought to be left uncut till thoroughly developed, as during the later stages they increase greatly in length, and I find that with good treatment the second spike on a bulb has time to develop while the early spike is still fresh; when showy potfuls are required this is a matter of considerable importance. Daffodils seldom require bottom heat to start them, as if they are potted early top growth is usually 2 or 3 inches in length by the middle of December, and it is seldom necessary to introduce them to heat before that time, for if forced too rapidly there is great risk of sending many of the flowers blind.

In special reference to Narcissus it is well to bear in mind that some varieties are much more amenable to a little persuasion early in the season than is the case with others. For example, the old double Daffodil when rationally treated may be brought into flower at and before Christmas, and at that period I have seen many handsome flowers from bulbs in shallow boxes similar to those employed for Roman Hyacinths. Of single Daffodils, the most satisfactory variety for forcing is *Narcissus obvallaris* (Tenby Daffodil), which seldom fails to produce good blooms if sound bulbs are procured and potted or boxed as early as possible. It is scarcely necessary in relation to early flowering bulbs to enlarge upon the value of the Paper White and double Roman Narcissi, which respond readily to forcing measures and practically keep pace with Roman Hyacinths in this respect; for this reason they are invaluable. It would not be possible within the limits of a comparatively brief article to enumerate the various miscellaneous bulbs that, in a minor degree, are utilised for early flowering. This, however, is unnecessary, as the general principles laid down are suitable as well for these as for others.

For making up tasteful combinations of various bulbs associated with a few small Ferns it is, of course, necessary to lift the bulbs when the flowers are of full size, yet just before they begin to open, but before this is done a few days' sojourn in a somewhat cooler structure is an advantage. Whenever numbers of flowers are ready for use, a few days before being required during winter they may be kept in good condition in a cool house; indeed, they are much improved by the treatment, gain in substance, and last longer when used. After January bulbs of all descriptions advance splendidly on stages of houses where a gentle heat is regularly maintained. Those required for late flowering should, of course, be kept in cool houses or pits.—H. D.

Apples.

IN the gardens and orchards of this country, as in the matter of Pears, so also is it with Apples, or in great measure it is so, there is the same mixture of ancient and modern varieties. The possible exception is in the gardens and orchards of the farm and cottage. In the latter cases there is a greater indifference apparent on the part of the owners as to varieties, suggestive of the fact that in these instances the young trees have been bought in the bundle in the market on the sole recommendation of the seller. He, of course, sold what he had, and as no seller cries "stinking fish," we may be quite sure he gave an excellent character to the sorts in the bundles of trees he was selling.

In the better class gardens, no doubt, in the first instance, when the gardens and orchards were originally planted, and the gardener had the choosing and planting, the collection would be, for that time, a generally useful one. If, however, it was let as a job or contract to some local grower, of no particular standing except in his own immediate neighbourhood—a thing often done—well, it would be, nine times out of ten, a collection of just the sorts he happened to have in stock. These, too, would be planted without order or purpose, as if they might have been dropped out of the dray and at once put into the ground. I say this collection would be (as it is Christmas time we will be charitable!) only so, so, and would certainly form a yearly source of anxiety and trouble to any gardener who had charge of them. Every year the gardener would have to regraft some varieties to bring the collection up to modern requirements.

In every neighbourhood it is interesting to note how certain varieties prevail, how these special varieties are grown extensively and almost exclusively, whilst other varieties which in their own neighbourhoods do well and are much grown, are left out. There seems a sort of unwritten law, the result of the experience of many generations of growers which has become the cultural genius of each respective neighbourhood, unconsciously acting on the people, and when all is said and done, it is a safe leading to follow. Because, however we may explain it, it is indisputable some varieties of Apples (and not only Apples, mind you!) will not do well in some places, and in places geographically almost in the same area, whilst those very varieties which fail in the one place will do prosperously and productively in the other. This is a very subtle problem, and we all of us have to study it and act on its compelling principle.

I could give names of varieties which would illustrate the above remarks, but by so doing I should inevitably bring a hornet's nest about my ears in the indignant remonstrances of rival Apple growers in defence of their pet varieties, so (and Christmas time too—the time of peace) I forbear, though gardeners all over the country can bear out all that I have brought forward.

Looking over the list of Apples nowadays sent out by the principal growers one is struck by the enormous, portentous length of such lists, and the question comes up in one's mind, What need of all these many varieties? For instance, I have just stopped to count the lists of Apples of three of our principal producers of young trees, and they are respectively 158, 139, and 108. Then the other thought arises: "How many varieties do I rely upon for my household supply?" and you are amazed to find that from a dozen to twenty kitchen varieties, and sometimes less, and a half dozen table varieties, or thereabouts, are all that you require and that you rely upon to furnish the season's supply. The strongest argument for the increase of varieties lies in the fact that in order to insure a supply of fruit the season through it is necessary to have a few extra varieties in order that if one variety misses fruiting by reason of the spring frosts or other disturbances some of the others may escape, and so keep up the calls made by the household; but then you do not need 158 varieties to do this. No, one may say; but here comes in again your argument of the likes and dislikes of varieties of different neighbourhoods, and each neighbourhood has to be catered for, and so I suppose something must be allowed on that score. All the same, I am still of opinion that some lists would be all the better if they were severely blue pencilled. What do other gardeners say?—N. H. P.

*Cattleya Dowiana Rosita.*

ALMOST every year sees the exhibition of new varieties of the beautiful *Cattleya Dowiana*, and many of them have been specially honoured by the Orchid Committee of the Royal Horticultural Society. The most recent is *C. Dowiana Rosita* (fig. 148), which was shown at the Drill Hall on Tuesday, December 17th, by Mons. Chas. Maron, Brunoy, France. It is a superbly beautiful variety, and merited the first-class certificate that was recommended. The stout sepals are cream with a pronounced suffusion of rosy red at the tips; the broad, wavy, and somewhat fimbriated petals have a similar basal colour, but the rosy red is of a brighter shade, and is far more abundant. The superb lip is velvety crimson, while the golden lined throat has all the beauty of the typical plant.

White Forms of *Lælia anceps*.

HAVING been successful in flowering these plants, a few notes on the mode of cultivation adopted may be of service to those readers who have not been as successful with them as they would like. Assuming that the plants are of good size and properly established, pans are preferable to pots, and they should not be disturbed too often. When not potted a top-dressing should be given, if such be considered necessary. The compost for potting ought to consist of good fibrous peat with a sprinkling of sphagnum moss (rather more than is generally used for *Cattleyas*). As abundance of light and air are required, the best position for the plants (if there is no special house provided) is on the side stage at the cooler end of the *Cattleya* house, where they can be especially treated.

To produce strong, sturdy flowering growths, it is necessary that they should not commence to grow too soon; those that commence in May are more likely to flower than those starting earlier, as they have the advantage of the longest and brightest days in which to form and complete their growth. When growth commences give the plants all the light available, only shading during the hottest hours. Air should be given in abundance, the bottom ventilators being wide open on all favourable occasions, and the side lights, where possible, on the hottest days, should be opened wide enough to admit air without causing a draught.

A minimum temperature of 70° should be maintained during the day, with a night temperature of 65°, a little air being admitted through the top and bottom ventilators at all times. After a very hot and bright day the night temperature should be allowed to fall slightly lower if possible, as this gives the plants a rest, which enables them

to recuperate their energies for the next day, and tends to solidify the growths. Syringe the plants twice daily during bright weather, taking care that the first syringing is done after the temperature has risen to the required height for the day, and that the second is done sufficiently early for the moisture to dry up before nightfall; omit all syringing on dull days.

By following these simple instructions success is practically sure to come as a reward for the efforts made. Amongst the numerous forms that are grown, *Lælia anceps alba*, *Sanderiana*, *Stella waddonensis* (fig. 149), *Schröderiana*, *Dawsoni*, and *Williamsi* are all excellent.—J. P. B.

Cœlogyne cristata.

THIS Orchid is remarkable for its easy culture, freedom of flowering, and endurance of a cool, dry atmosphere when in flower, being,

indeed, one that may be removed to the drawing-room or boudoir without fear of injury, and forming a most attractive plant for a period extending over three weeks. It produces drooping racemes of pure white flowers 3 or 4 inches in diameter, with a large blotch of rich yellow in the middle, the veins having a golden crest-like fringe.

It may be grown in pots, in baskets, and on blocks. Plants in small pots or saucers (perforated), and baskets, the latter when neatly mossed being suitable for the table. The pots or baskets should be well drained; half the depth should be occupied with crocks, and the material may consist of equal parts live sphagnum, rough pieces of peat, and charcoal with a sprinkling of sand, raised in a moderately high cone in the centre, and well pressed down. The pseudo-bulbs may be placed about their own diameter apart, and pegged to the surface, using galvanised pegs. The pseudo-bulbs should not be buried, their base merely resting on the surface of the material. A little live sphagnum may be placed between them,

which gives a neat finish. The time to repot or re-surface is just after the flowering is over, or, as a rule, the early part of February.

During growth the plants must not be allowed to become dry, and copious supplies of water are necessary, keeping them constantly wet from the time the plants begin to grow in spring, and I give a light dash from the syringe twice a day after the pseudo-bulbs begin forming. From February to October they require plenty of water, but when they are of good size water only need be given to keep them from shrivelling. Whilst growing a stove temperature is necessary, or that of the *Cattleya* house, but in winter they may be kept cool or in a temperature of 50° to 55°, though they will do well enough in a stove temperature, only do not keep them very moist, or premature growth may commence.

Cœlogyne cristata does well in an ordinary stove, and excellently in an intermediate house; notwithstanding it is all the better if encouraged when making growth, as a dry atmosphere causes the leaves to become stunted, and as these are so are the pseudo-bulbs and flowers.—ORCHIDIST.



FIG. 148.—CATTLEYA DOWIANA ROSITA.



Garden Roses.

(Concluded from page 504).

Free-flowering Varieties.

As it is somewhat difficult to classify all varieties correctly, I prefer to place them under the above heading. *Alister Stella Gray* is somewhat after the style of *W. A. Richardson*, but paler in colour; planted in a clump, pegging the stout shoots down annually is the way to obtain a mass of blossoms. *Augustine Guinoisseau*, white, slightly tinted flesh colour, is very free. *Bardou Job* is one of the most effective Roses we have when growing in a mass; the blooms are almost single, the large petals are brilliant crimson, deeply shaded with a velvety hue. *Beauté Inconstante* is a coppery red, shaded with carmine and yellow. *Camoens*, bright rose, is charming in the bud and excellent for cutting. *Crimson Bedder* planted in a mass is effective and lasting. *Corallina* is a deep rosy crimson Tea; it is a capital autumnal bloomer. *Dr. Grill* is coppery yellow, shading to clear rose. *Gruss au Teplitz*, bright scarlet crimson, is a grand variety.

Gustave Regis produces long pointed buds; the colour is canary yellow. *Madame Plantier* is one of the most charming of pure white Cluster Roses. *Perle de Feu*, coppery red shaded nankeen yellow, is distinct and free. *Papa Gontier*, bright rosy crimson, is exceedingly pretty in the bud. It would be difficult to imagine a more brilliantly coloured Rose than *Marquise de Salisbury*; the colour is rich crimson; it is a free bloomer, and of dwarf compact habit. *Madame Chedane Guinoisseau*, pale canary yellow, has long pointed buds. *Madame Eugène Resal* is rosy pink shaded with orange, continuously in flower. *Madame Carnot* is golden yellow, deeper in the centre; the edge is coppery. *Mlle. Laurette Messimy* is bright rose, shaded yellow. *L'Idéal* would be difficult to surpass as a garden Rose; it is yellow and metallic red, shaded, streaked, and tinted golden yellow. *Ma Capucine*, bronzy yellow shaded red, is very distinct. *Tuscany* is dark purple crimson.

Sunrise is perhaps the most admired of all new Roses. The colouring is almost unique, the outer petals being reddish carmine, shading to delicate fawn within. The blossoms when fully open are yellow. *Souvenir de Catherine Guillot* is a charming new Tea; the colour is coppery carmine, centre shaded orange; it flowers as freely as a China. *Queen Mab* is a soft, rosy apricot with a shaded orange centre, tinted on the outside with rose and violet; a charming autumn flowering variety. *Crimson Damask* is a brilliant crimson form of the old Red Damask to be sent out this season; it is a wonderful Rose for colour. *Laurette Messimy*, rose shaded yellow, is quite a new colour. *L'Innocence* is a pure white free-flowering Tea. *Madame Pernet Ducher*, semi-double, is a beautiful Tea in the bud; the colour is canary yellow. *Purity* is one of the best of garden Roses; it is pure white and very free. *Madame Chauvay*, orange or apricot; *Elise Fugier*, pale lemon white, and *François Dubreuil*, crimson Tea, complete the list.

Single Varieties.

Single flowered varieties deserve a prominent place in all gardens no matter how small; they flower freely, are bright and attractive. *Cooling's Crimson Bedder*, a new variety, should be in every collection; it is perpetual, continuing in bloom well into autumn; the colour is glowing crimson. *Andersoni* is a charming pink Rose, as is *berberifolia* *Hardi*, yellow with maroon spot. *Biggeriana*, small white, is very free. The Copper Austrian Brier, nankeen yellow, is very distinct. *Hebe's Lip* is white with picotee edge. *Macrantha*, pure white, is a very large bod flower with golden stamens. *Paul's White*, pure white with yellow stamens, is very attractive. *Pulverulenta*, an early flowering large white variety, is well worthy a place. *Royal Scarlet*, brilliant scarlet, is of dwarf bushy habit. *Yellow Austrian Brier*, golden yellow. *Brunonis* (*Himalaya Brier*), pure white with yellow stamens; and *Sinica Anemone*, silvery pink, shaded with rose, bright shiny foliage, complete the selection.

Miniature or Fairy Roses.

For edgings to beds or borders, or for covering narrow banks, this section is invaluable. The plants flower freely, and continue into the autumn; many of the varieties do not grow more than 1 foot high. *Anna Maria de Montravel* produces small pure white blossoms. *Gloire de Polyantha*, deep rose, with a white base to the tiny petals, towards autumn the colour intensifies, is one of the best. *Red Pet* is dark crimson in autumn, but earlier in the season almost maroon. *White Fairy*, pure white, small and double, is very beautiful. *Perle*

d'Or is a charming yellow with an orange centre. *Mignonette*, soft rose changing to white, is a charming miniature variety. *Madame C. Brunner*, light pink or blush, is very sweet and of dwarf habit. *Georges Pernet* is rose changing to peach, with yellow shading.

Rosa rugosa.

The rugosa type is most useful when planted in masses, where the beauty of the summer flower is continued and enhanced by the crop of fruit, which when changing to red and purple in the autumn is peculiarly pleasing. The various forms of white, purple, and red are all desirable. Perhaps the most desirable form of flower is that produced by *Madame Georges Bruant*, whose pure white flowers are produced in bunches; it is a hybrid of rugosa.—E. MOLYNEUX.

Culture of Maidenhair Ferns.

(Continued from page 560.)

SHADING is necessary during the early summer months before the growth is hard enough to withstand the scorching rays of the summer sun, and a little light shading can be used with good effect on all bright days after the growth is solidified. Many materials are suitable for the purpose; tiffany or other blinds made of light canvas, which can be removed after the sun has gone down, form the best. Light bass mats that have been used for protection during the winter are useful for covering frames. Shading that can be removed after the sun has gone is always preferable to a permanent covering, but this is often used with good effect. The most common means of providing a permanent shading is by using limewash; if the lime is mixed with milk to the consistency of thin paint, it can be syringed on the glass, repeating the syringing as the sun becomes stronger. If whiting and linseed are mixed in the same way, they will be found to withstand the effects of the weather; and if gone over and slightly tapped with a dry brush before it becomes set, the material will have somewhat the appearance of frosted glass. Good shading mixtures are advertised, directions for use accompanying the packets.

Propagation by Division.

The most general methods of increasing the Maidenhair are by dividing the plants and by sowing the spores. One plant may be divided into many parts, each capable of growing and forming a plant, if sufficient crown and roots are attached. The best time to divide is in the spring; then the plants have the summer before them to make their growth, and they can become established before winter sets in. Propagation by spores is a slower process than dividing. The spores can be easily found by looking at the back of the fronds when they are well developed; little brown cases full of minute spores, each capable of producing a plant if good and properly attended to, will be seen. The autumn is the best time to gather the fronds, tying them in small bundles, and placing them in paper bags, so that the spores, when they fall out, will not be wafted away by the wind. Allow them to remain there till spring if sufficient heat cannot be obtained to keep them growing freely through the winter. Many young plants can often be obtained by the spores sowing themselves when the plants have stood during the summer and early autumn months; but this chance cannot be depended upon.

Raising from Spores.

The spores may be sown at the beginning of February in well prepared compost, which should consist of fine, sifted loam and very small pieces of charcoal, brick, or cinders thoroughly mixed. Fill the pots or pans half full of crocks, covering with moss to prevent the soil finding its way among the crocks; afterwards fill with soil to about half inch from the top, pressing moderately firmly, and well soaking with water before sowing. The spores may be washed away if watering takes place afterwards. When this has been completed place the pot or pan in a saucer of water, which should be kept full till the plants make their appearance. The spores should be sown on the surface of the soil, and a piece of glass kept upon the pot till the plants make their appearance, and are far enough advanced to allow of its being taken off. Shading will be necessary during bright weather, but at no other time. A temperature ranging from 65° to 70° will suit them well. Potting should be done as soon as the plants are large enough to handle. Little patches put in small thumb pots and kept growing will soon make useful plants, and be ready for potting into larger sized pots. Overpotting is very injurious to young Ferns, as also is starving. If allowed to become root-bound and overlooked when young the plants seldom recover. By potting from one size to another, when the plants have filled their pots with roots, no harm whatever will result.—P. G.

(To be concluded.)

Cherries and Plums in Pots.

(Concluded from page 550.)

LIQUID manure or soot water should be given twice a week after stoning; and as there is so little earth in the pot compared to the crop it ripens, additional food must be given in the shape of a top-dressing of equal parts of kilndust and horse droppings mixed, making a layer of about 2 inches thick near the rim of the pot, sloping down to the stem so as to form a basin to hold the water. Two top-dressings will be necessary, the first when the fruits are stoning, the second when they are colouring, by which time the goodness of the first application will be exhausted. When the young shoots have made a dozen or so good leaves they should be pinched back to eight or ten. One pinching alone is necessary, subsequent growths being left alone. The worst insect enemy to contend with is the black fly, but it may be kept down by watchfulness. The first smoking, with tobacco paper, referred to above, will do much; subsequently the trees may be smoked at any period with the patent vaporising compounds now sold. XL All may be used with perfect safety, even during flowering. There are many good Cherries well adapted to pot work when budded on the Mahaleb.

Selections of Cherries.

Though it is a mistake to have too many varieties, several are needed to cover all the season, and it is very pleasant when one has been feasting on luscious Geans to give the palate a change by eating some crisp Bigarreus or acidulous Dukes. About the third week in June Belle d'Orleans and Guigne Annonay are ripe, the former light red, the latter black, both excellent Cherries and good croppers, though the fruit is somewhat small, and that of the latter soon becomes dull after ripening. Werder's Early Black ripens next; the fruit of this sort also loses its lustre, and it is scarcely worth growing, since Early Rivers ripens almost at the same time. Early Rivers is an ideal pot Cherry, bearing its large black fruits abundantly. They are of excellent flavour, and hang on the tree a month after ripening, perfectly sound and bright to the last. Black Circassian, Bigarreau de Schrecken, and Bedford Prolific, three good black Cherries, follow.

In July we have Bigarreau Noir de Guben; Governor Wood, an excellent pale red Cherry, which is, however, very liable to crack if water touches the ripening fruit; Belle de Choisy, a fine Duke; Frogmore Bigarreau, red; May Duke; Elton, a handsome bright red Bigarreau; White Bigarreau, with waxen yellow fruit slightly tinged with red next the sun; Turkey Black Heart, a fine pot Cherry with firm, juicy fruit; Reine Hortense, a large Duke; Monstreuse de Mezel, a very large dark red Bigarreau; Bigarreau Napoleon, deep red; Black Hawk; and Emperor Francis, a very large bright red Bigarreau.

In August ripen Late Duke; Large Black Bigarreau; Guigne de Winkler, bright red; Late Black Bigarreau; and last, but not by any means least, Géant d'Hédelfinger, a brownish black Cherry of immense size with very firm flesh.

The Treatment of Plums.

The directions given for the culture of Cherries may also be employed successfully with Plums; but different species of fruit should, if possible, be grown in separate houses or compartments to avoid their requirements clashing at any time. As with Cherries, many Plums will hang on the tree under glass for a very long time,

especially the late sorts; they shrivel slightly, and become bags of honey. The bloom on the fruit is very strongly developed under glass, and is quite firmly fixed, not being easily rubbed off.

Some Choice Plums.

An ample selection may be made from the following sorts:—Stint, the earliest, a pretty yellow Plum mottled with red, which must be picked directly it is ripe; Early Prolific (or Early Rivers), a round, deep bluish purple Plum; Czar, large, oval, reddish purple; Mallard, deep purple; Oullins Golden Gage, very large, oval, rich yellow; Denniston's Superb, Early Transparent, and M'Laughlin's, all fine Gages of a greenish yellow colour, blotched with purple and red; Jefferson, golden yellow, spotted with red; Kirke's, roundish, dark purple, covered with a heavy blue bloom; Belgian Purple, a round dark purple Plum; Golden Transparent, described by its name; Late Transparent, purple, the leaves of which have a curious habit of curling inwards to the midrib, and thus exposing their under surface when the fruit ripens (this must not be mistaken for want of water); Coe's Golden Drop, oval with a short neck, a yellow Plum with dark red spots; and Decaisne, large oval skin, bright yellow with a dense green grey bloom, both of which hang especially well; Reine Claude de Comte Atthems, a large red Gage which does not hang long; Monarch, a very large purple Plum; Reine Claude de Bavay, a late Green Gage; Grand Duke, an oval purple Plum which carries an extremely heavy silver blue bloom; Primate, very large, bright purplish red; and Rivers' Late Orange of a glowing yellow orange colour.

A Closing Word.

The flavours are very diverse and pleasing; they seem to be enhanced, and at the same time refined, by the additional sun and warmth under glass. Trees studded with their different coloured fruit make an orchard house quite as beautiful as is a conservatory of flowers. The Japanese Plums, so largely grown now in America, but which cannot be called a success with us in the open, I thought at

one time would prove an acquisition in the orchard house, but they are not. Perhaps we have yet to discover the secret of their culture. With both Cherries and Plums the glass should be shaded by syringing with whitewash when the fruit is ripe. The direct rays of the sun are too scorching if the summer be hot.—(Paper read by Mr. H. SOMERS RIVERS before the Royal Horticultural Society.)

Dangerous Knowledge.—A celebrated English writer of the last generation was renowned for his asceticism. One saying with which he is credited is that "a little knowledge is a dangerous thing." This is particularly exemplified at the present time by the talks on microbes which come in the public prints. Just before us, as we write, is an article in a magazine of some pretensions which reads as follows: "Fruit skins carry germs, and, when these are taken into the stomach, cause disease. The raw fruit itself is dangerous, and, in many cases, should not be eaten. Cooked fruit is in all cases preferable, but when fruit is eaten the skins should always be discarded. They are full of microbes, which they catch from the atmosphere and retain." The folly of this is apparent when it is known that the number of disease-producing germs is infinitesimally small in comparison with those which are beneficial. Nearly all the operations of life are carried on through the agency of these microbes; there could be no life without them. Ninety per cent. of all the microbes that are attached to fruits do no more injury than to eat a dish of oysters.—("Meehan's Monthly.")

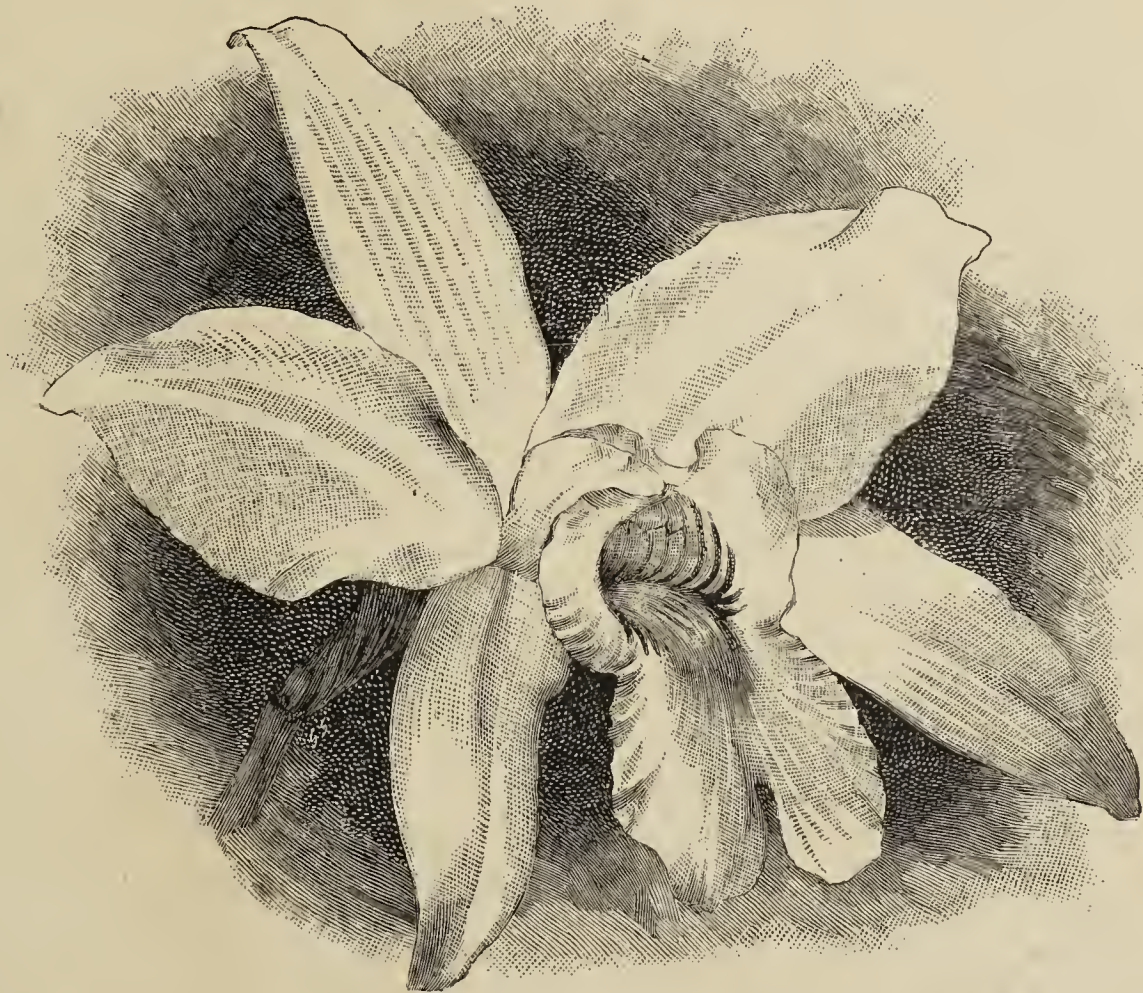


FIG. 149.—LÆLIA ANCEPS WADDONENSIS.

NOTES & NOTICES

Recent Weather in London.—On the Sunday and Monday immediately preceding Christmas Day the metropolis was enveloped throughout the greater portion of the day in a heavy fog, which made locomotion somewhat tedious. On Tuesday rain fell during the early morning hours, but later it was dry with a rather high wind at night. At the moment of going to press on Boxing Day it was wet and dull.

Weather in the North.—There has been no improvement in the dull weather during the past week, and high winds have been prevalent. A violent south-westerly gale in the night between the 21st and the 22nd has done immense injury to property all over the country, accompanied in a good few instances with loss of life. Christmas morning was gusty, but fair, with the barometer at 53°.—B. D., S. Perth.

Royal Institution.—To-day (Thursday) at three o'clock, Sir Robert S. Ball, F.R.S., will deliver the first of the Christmas course of lectures (especially adapted to young people), at the Royal Institution, his subject being "Great Chapters from the Book of Nature." The remaining lectures will be delivered on the 29th inst., and January 1st, 3rd, 5th, and 8th.

Tobacco Culture in Ireland.—The Board of Agriculture for Ireland has taken charge of the experiments in connection with the above which were worked out at Randalstown, Navan, last year, transferring the seat of operations to the Model Farm, Glasnevin, where large breadths were cultivated under the guidance of a French expert. The process of harvesting is just completed, so that the critical stage is now being entered upon—namely, the one of curing prior to bringing the Tobacco into marketable condition. This is an important point, as the Navan experimenters found by experience. If this succeeds the cultivation of Tobacco may lay claim to attention from the growers on this side of the Channel as a suitable rotation crop.—A. O'NEILL.

Another Use for the Noble Tuber.—Not many years since the threatened ivory famine produced that remarkable imitation known as celluloid, which has been successfully employed for every possible use, from billiard balls to piano keys. To-day the imitation has been itself imitated, and that, too, by a curious preparation of Potato pulp! The inventor is a Dutchman named Knipers. He treats the waste pulp, itself a residue from the manufacture of the artificial Potato flour, with a solution of acid and glycerine. The resulting compound takes the form of a species of stickfast, which is dried and ground to powder. This powder is moulded into blocks with the aid of water, very much as one uses plaster of Paris. There is, however, this important difference. The new compound can be cut, and turned, and bored, and used for every purpose, from buttons upwards, in which it was formerly customary to use bone and ivory.

Royal Meteorological Society.—The monthly meeting of this society was held on Wednesday evening, Dr. C. Theodore Williams, president, in the chair. Mr. H. Mellish read a paper on "The Seasonal Rainfall of the British Isles," which he illustrated with a number of lantern slides. He discussed the rainfall returns from 210 stations for the twenty-five years 1866–90, and calculated the percentage of the mean annual rainfall for each season. In winter the largest percentages of rainfall are found as a rule at the wet stations, and the smallest at the dry ones. Spring is everywhere the driest quarter, and the percentages are very uniform over the country—rather larger in the east than in the west. In summer the highest percentages are found in the dry districts, and the lowest in the wet ones. As the spring is everywhere dry, so is the autumn everywhere wet, and there is little difference in the proportion of the annual total which falls in the different districts. As regards the relation between the amount of rain which falls in the wettest and driest month at any station, it seems to be generally the case that the range is larger for wet stations than for dry ones. In wet districts rather more than twice as much rain falls on the average in the wettest month than in the driest, and in dry districts rather less than twice.

Devon and Exeter Horticultural Society.—General Summer Flower Show, Friday, August 2nd; Fruit and Chrysanthemum Show, Thursday and Friday, November 14th and 15th, at Exeter. The honorary secretary is G. D. Cann, Esq., 17, Bedford Circus, Exeter.

The National Dahlia Society.—A meeting of the committee to make arrangements for the coming annual meeting of the society, which will take place on the 8th proximo, was held at the Horticultural Club on the 18th inst., Mr. E. Mawley, president, in the chair. After the usual preliminaries the secretary, Mr. J. F. Hudson, presented a draft report. In reference to the Memorial Fund to the late president, Mr. T. W. Girdlestone, a sum of money had been raised for the provision of a medal, and it was in course of preparation. A scheme for affiliating Dahlia societies had also been put in operation, and the Boston Society had been accepted. The catalogue of the society had also been revised and brought up to date. The report was adopted, and the accounts, which showed a small balance on the right side, were passed. Subject to arrangement with the Crystal Palace authorities it was resolved that a one-day show be held on Saturday, September 7th, and a meeting for granting certificates to new varieties at the Drill Hall at the end of September. The proceedings closed with a vote of thanks to the chairman.

The Legend of the Glastonbury Thorn.—According to the old legend, the plant which is known as the Glastonbury Thorn sprang from a walking-stick which Joseph of Arimathea stuck into the ground on Christmas Day while he was resting himself on a hill not far from the famous Abbey near Bath. It promptly turned into a beautiful flowering Thorn tree, and continued for ages afterwards to blossom into green leaf and red berry on December 25th as regularly as that festal date came round. Once, indeed, it narrowly escaped destruction. The holy walking-stick developed two stems, exactly identical. During the civil wars a Puritanical Hew-em-down thought the Thorn savoured of Popery, so he sallied forth with his hatchet to cut it to bits. One stem was soon hewn to pieces, but in the first blow he aimed at the other the axe glanced from the bark and cut off one of the tree-feller's legs, thus incapacitating him from further destruction. In this miraculous manner was the Glastonbury Thorn preserved, and its offspring has gone on flowering on or about Christmas Day ever since, thus (according to the natives) affording conclusive proof of Joseph of Arimathea's visit to England, else why should it do so? This year, in accordance with the mildness of the season, it is a little beforehand, and a correspondent at Bath sends a branch of the plant, which is now in full bloom at the Botanical Gardens, Royal Victoria Park, Bath. It is a herald, if one be required, of the approach of Christmas.—("Daily Telegraph.")

National Carnation and Picotee Society.—The annual general meeting of this society was held at the Horticultural Club, Hotel Windsor, on the 22nd ult., the president, Mr. Martin R. Smith, occupying the chair. As is usual, no written report was presented; that is drawn up later by the secretary and published with the schedule of prizes. Mr. T. E. Henwood, the treasurer and secretary, presented the financial statement, showing that a balance of £209 10s. 10d. had been brought over from last year. On the other side, the sum of £235 6s. 6d. had been paid in prizes; printing and stationery amounted to £64 3s. 1d., special circumstances having required a larger expenditure than is usual. Mr. Martin R. Smith was re-elected president, Mr. T. E. Henwood treasurer and secretary, while the patrons, patronesses, vice-presidents, and members of the committee were passed without alteration. The next show will take place on Friday, July 19th, subject to the concurrence of the authorities of the Crystal Palace. Mr. F. A. Wellesly, who had given notice of motion, called attention to the unsatisfactory way in which the premier blooms were judged at the late show, and moved that judges be engaged specially to make these swards, and that it should be done while the other classes were being judged. This was agreed to. Mr. S. A. West moved that two exhibitions be held instead of one only, but this was lost. A statement was made to the effect that the list of yellow ground Picotees had been revised by a committee, who recommended the changing over of the following varieties from yellow ground Picotees to Fancies, viz., Ennomia, May Queen, Mrs. Willie Spencer, Primrose Day, and Stanley Wrightson. The following varieties, all of Mr. Martin Smith's raising, were added to the list of yellow ground Picotees:—Lady St. Oswald, Lanzonn, Daniel Defoe, Heliodorus, Henry Falkland, Edna May, Caracea, Alcinous, Edith, Galatea, and Anchor.

National Auricula and Primula Society.—The annual meeting of the members of this society took place at the Horticultural Club on the 22nd inst., Mr. James Douglas in the chair. The minutes of the previous meeting having been read, and it was stated in reference to the last exhibition that the variable weather which prevailed was far from satisfactory. The financial statement showed a balance of £20 18s. 9d. brought over from the previous year, and the receipts from all sources had amounted to £73 8s. Prizes had been paid to the value of £63 8s., and a satisfactory balance was carried over to the ensuing year. The president (Sir John T. D. Llewelyn, Bart.) and the vice-presidents were re-elected. Mr. James Douglas was appointed chairman of the committee in the place of the Rev. H. H. D'Ombraim (resigned), and Messrs. A. R. Brown and E. L. Gordes were added to the committee, and Mr. T. E. Henwood secretary. The show will take place as usual in April.

Royal Agricultural Society.—The Royal Agricultural Society seek a site of 150 acres near London where a permanent showyard can be established for their annual shows. The locality is not yet decided upon. When the society began operations over sixty years ago travelling was dearer than it is now. There were no shilling excursions. Hence the show had to be peripatetic—the visitors could not be brought to the show, so the show had to be brought to them. A committee is now engaged in discussing sites. A space of 150 acres, whereon a gigantic farmyard can be established, is not easily found near London. Some idea of what is wanted can be gathered from the fact that at the last show at York accommodation had to be found for 2000 live stock—horses, cattle and sheep—and 629 head of poultry. Sheds had also to be found for the inanimate exhibits—butter, cheese, honey, and the like—and for a vast quantity of agricultural machinery—some of it “in motion.” The society could only find a site on undertaking to abstain from exhibiting pigs. York, the home of the succulent ham, inconsistently drew the line at pigs. The new showyard will add another attraction to London.

Growing Mushrooms in Town Cellars.—In the Sheriff's Court at Leith, on Tuesday, 11th inst., Sheriff-Substitute Maconochie gave judgment in a case raised by the local authority of that burgh. The local authority alleged that William McRobbie was using certain cellars in various parts of the town for Mushroom growing, that the cellars were below the level of dwelling-houses, and contained accumulations of stable manure, which persistently polluted the atmosphere with gases and the soil with decomposing organic refuse, and that the process of Mushroom growing as carried on was a nuisance within the meaning of Section 16 of the Public Health Act. Sir Henry Littlejohn, Medical Officer of Health for Edinburgh, having examined the place where the manure is prepared or “sweetened” and the three cellars where the business is carried on, reported that he could detect no objectionable odour, and that the various tenants assured him they had no cause to complain. Under these circumstances he considered that the trade of Mushroom growing in the three localities did not create a nuisance. Whereupon McRobbie got judgment with costs, he being represented by Mr. P. Murray Thomson, Secretary of the Royal Caledonian Horticultural Society.

Shirley Gardeners' Association.—The members had an intellectual treat afforded them by Professor E. T. Mellor, B.Sc., London, Lecturer in Biology at the Hartley College, Southampton, at the Parish Rooms, Shirley, on Monday, 17th inst., “On Plant Cells, their Structure, Forms, and Uses,” illustrated by microscopical preparations and diagrams. The president, W. F. G. Spranger, Esq., J.P., was in the chair, and congratulated the members on having Mr. Mellor with them again. Mr. Mellor, avoiding as far as possible technical terms, showed how the structure of plants, as well as animals, was built up by a series of cells, some of which, as with the Apple said to be “mealy,” could be seen with the naked eye, but others were far more minute. Hundreds of biologists were at the present time, Mr. Mellor said, intently studying the scientific revelation, believing that it might possibly solve the question, “What is Life?” and one of Mr. Mellor's most interesting microscopic illustrations showed this marvellous creeping protoplasm in action. Mr. Mellor attached a microscope to his lime-light lantern, and was thus able to project on the screen objects multiplied 20,000 to 30,000 fold. Some of these cross-cut sections of tree and plant growths were most interesting because of the beautiful forms taken by the grain of wood. The next lecture is on “Insects Injurious to Garden Plants and Fruit Trees,” by Rev. H. S. Gorham, F.Z.I.—J. M.

Hybrid Streptocarpus.—No better recommendation for these plants could be found than the fact that they can be had in abundance for Christmas. From this it will be seen that plants may be flowered over the larger portion of the year, but at no moment will they be more appreciated than at the festive season. For some years Messrs. J. Veitch & Sons have been labouring in the improvement of the Streptocarps, and with a most generous measure of success. The firm forwarded for our inspection a few days ago a number of blooms from the Feltham Nursery, which for size and substance, with diversity and richness of colour, were really remarkable. There were pure white, white striped purple, rich purple, dark blue, light blue, rose, pink, lavender, and other shades, that amply demonstrated the excellence of the strain.

Arsenic in Farm and Garden Crops.—The discovery of arsenic in beer brewed from malt and Hops only has put the “Lancet” on the track of artificial manures, which are rich in arsenic easily soluble in water. This is hardly surprising, continues the authority, since the basis of artificial manures—namely, superphosphate of lime—is made by acting on ordinary bone ash with common oil of vitriol. The important point is that it has been established that plants to which arsenical manure is applied take up arsenic in their tissues. Cabbages and Turnips gathered from fields manured with superphosphate have given unmistakeable evidence of the presence of arsenic. It is probable that arsenic accumulates in the soil which is constantly being dressed with superphosphate, so that plants raised on such soil would absorb arsenic, and exercise an injurious effect on the health of man and animals. The question arises, therefore, may not the arsenic in malt be traceable to the somewhat large amount of arsenic inevitably present in artificial manures? This aspect of the subject is very serious, and needs further inquiry, for it presages the discovery of poison in a great many common articles of diet.

London Sewage.—At the meeting of the Society of Arts held recently, Dr. Frank Clowes, chemist to the London County Council, read a paper on “The Treatment of London Sewage,” which was illustrated by limelight views and diagrams. Mr. R. Brndenell Carter was in the chair. Dr. Clowes described the method of chemical treatment adopted for the disposal of sewage, and said that as far back as 1893 the drainage committee of the London County Council started on a large-scale experiments for bacterial purification. In the process adopted the raw sewage was allowed to flow into large tanks which contained fragments of coke about the size of walnuts. As soon as the level of the liquid had reached the upper surface of the coke bed its further inflow was stopped, and it was allowed to remain in contact with the coke surface for two or three hours. It was then allowed to flow slowly away from the bottom of the coke bed. This effluent was entirely free from offensive odour, and remained inoffensive and odourless even after it had been kept for a month at summer heat, either in closed or open vessels. The introduction of such a sewage effluent into the Lower Thames was unobjectionable. A discussion followed the reading of the paper, and a vote of thanks to the author closed the proceedings.

Meteorological Observations at Chiswick.—Taken in the Royal Horticultural Society's Gardens—height above sea level 24 feet.

Date.	Direction of Wind.	Temperature of the Air.				Rain.	Temperature of the Soil. At 9 A.M.			Lowest Temperature on Grass.
		At 9 A.M.		Day.	Night		At 1-ft. deep.	At 2-ft. deep.	At 4-ft. deep.	
		Dry Bulb.	Wet Bulb.	Highest	Lowest.					
1900.										
December.										
Sunday ..16	S.S.W.	deg. 37.9	deg. 37.2	deg. 50.1	deg. 37.5	ins. —	deg. 45.8	deg. 48.0	deg. 49.5	deg. 30.0
Monday ..17	S.S.E.	45.1	42.9	49.3	37.7	—	45.5	47.6	49.5	32.1
Tuesday 18	S.S.W.	48.5	46.5	51.4	32.4	0.22	44.8	47.2	49.5	22.6
Wed'sday 19	W.N.W.	36.9	36.2	50.6	36.5	—	45.5	47.2	49.3	29.5
Thursday 20	S.S.W.	50.4	48.2	53.1	36.3	0.11	44.8	47.2	49.3	32.5
Friday .. 21	W.S.W.	43.8	40.3	48.6	42.8	0.08	46.0	47.2	49.2	36.7
Saturday 22	W.S.W.	31.2	31.0	39.3	30.5	—	43.8	47.1	49.2	22.0
MEANS ..		42.0	40.3	48.9	36.2	Total 0.41	45.2	47.4	49.4	29.3

The weather has been much cooler during the past week. Rain fell on three days, Wednesday being characterised by strong wind and Saturday by thick, smoky fog, which was prevalent all day.

The Mistletoe.

SOME two months before this Christmas I received a letter from a young friend in New Zealand begging earnestly for a piece of Mistletoe. Though the young rascal professed to want it as an object of curiosity, I have grave suspicions that his motives were of a more utilitarian nature, and that in a case of especial difficulty he contemplated trying to acclimatise in New Zealand the good old English custom. Where traditional usage has not attached to any plant such attributes as those conceded to the Mistletoe in England, young men are compelled to ask for what many here are still privileged to take by force. But in England also it looks as if the talismanic properties of the Mistletoe would soon cease and unlicensed kissing become tabooed. Possibly at the children's parties of to-day there may be a little surreptitious osculation, but with modern smartness and *fin-de-siècleism* the custom appears to have forsaken even our children's circles. Whether young ladies are more squeamish, or whether they are averse to kissing which is futile of marriage, and only suffer it when it strictly indicates "business," we know not. Probably a good many of us are getting too old to be worth kissing, and hence these tears and lamentations over the decadence of the age. However, even old fogies can contemplate the Mistletoe from a horticultural and unsentimental point of view, and now that Christmastide is upon us seems an opportune moment for its consideration.

The Mistletoe is so well known that I shall not render it unrecognisable by mentioning that its botanical name is *Viscum album*, and that it belongs to the family *Loranthaceæ*. Life is much coloured by the teachings of childhood, and one of my earliest botanical lessons was that the Mistletoe grew upon the Oak, and was cut at Christmastide by the Druids with golden sickles. Nowadays it does not ordinarily grow upon the Oak, but upon the Apple, Crab, or Thorn. Indeed, in England so rarely does the Mistletoe grow upon the Oak, that it has been concluded that the Druids prized it for that very reason. Another supposition is that in olden times, when great forests of Oak extended over the West of England, the climate was more damp and favourable to the development of Mistletoe upon it. In addition to the above-named trees Mistletoe will grow upon the Lime and the Poplar, and it is said that it has even been found flourishing upon a Gooseberry bush.

The Mistletoe has what is called a parasitic habit—that is, it does not take root in the ground, but upon some other tree, which it saps of its juices and ultimately kills. In Herefordshire the Apple orchards are infested with it, the only compensation for its ravages being the profit made upon its sale in London during the Christmas season. The best way of propagating the plant is by sticking the viscous seeds in the middle of the bark of the under side of an Apple branch. It grows from there with its head downwards, the stems sometimes reaching to the thickness of a broomstick. The only care to be taken is that birds do not carry off the seed. Some cut a notch for the seed, but this is

not necessary. The sexes of the plant are distinct, the male flowers being in clusters of four or five, and the female ones solitary. The virtues of the Mistletoe are not so great that it is ever likely to be fashionable as a cultivated plant; but it has been associated with our Christmas festivities from time immemorial, and both for that reason and on account of its peculiar habit it is not unworthy of illustration in the present number of the *Journal of Horticulture*.

The specimen (fig. 150) was grown in Mr. Van Geert's nursery at Antwerp. It was produced by establishing the Mistletoe from seeds placed on the under side of the branches of young Thorn trees. When the Thorn growths were suppressed the Mistletoe dwindled. It is established on young Apple trees by Messrs. Smith & Co., Worcester. —BACCA.



FIG. 150.—STANDARD MISTLETOE.

Mistletoe and Holly.

To all intents and purposes it may be said that none of the Mistletoe which is sold in London at Christmas is English. Those who have visited Paris, travelling by the Newhaven and Dieppe route, will hardly have failed to notice how plentifully it grows in Normandy, showing at this season as rounded masses of foliage on the branches of Poplars and Elms that are otherwise bare. The supply for the London market comes from here and from round about Paris. Large quantities are grown on the coast and sent direct to other large towns, such as Cardiff and Liverpool. London takes about three times as much as Paris, where Mistletoe is often considerably higher in price than it is here. At the present moment, for example, the difference is one of about 50 per cent. The present year is a good one for Mistletoe, and this probably means that there will be a large supply, for it must be remembered that every bush of Mistletoe is a small tree, which may be as much as ten years old. The growers naturally consult the market, and if prices are low they give the bushes another year of life in the hope that when Christmas comes again the market will be more favourable.

In England there is no demand for Mistletoe until just before Christmas, and if it were to make its appearance earlier it would be quite unsaleable. In Paris there is a difference, and the bushes are cut to

a considerable extent as soon as the berries have ripened. The bushes come to Covent Garden via Boulogne and Newhaven, and are carefully packed in crates weighing one or two hundredweight each. It is interesting to learn that considerable quantities of Mistletoe are exported from Dieppe to New York, and thence distributed throughout the United States, in which country the lovers of the old-fashioned Christmas are willing to pay for it very heavily indeed.

The Holly Trade.

Holly is, of course, much cheaper than Mistletoe, and the only place from which it is imported is Guernsey, which sends a small quantity to London. Very little Holly gets to Covent Garden direct. Gardeners or farmers who have hedges of this kind trim them and make faggots, which they send by the truck-load to Nine Elms. Also, there are enterprising people who make it their business to scour the country

just before Christmas, and, finding out the owners of Holly, to offer them a price for all that can be cut. There are also, it must be admitted, a number of persons—also to be described as enterprising—

Covent Garden: it is frankly admitted that in this particular branch of the trade there is a considerable amount of theft. The same statement applies to the traffic in Christmas trees; a proportion of the young



FIG. 151.—HOLLIES.

1, *argentea variegata*; 2, *Golden Queen*; 3, *Milkmaid*; 4, *Hedgehog*; 5, *fructu-luteo*; 6, *Hodginsi*.

who likewise go into the country on the look-out for Holly, but who would scorn to offer the legitimate owner a price or even to consult him at all. On this subject there are no illusions at all among those who know

Firs which are sold to be used in this way have been stolen by night from the plantations where they were growing, hurried away to some convenient railway station, and thence conveyed

to London. Holly and Christmas trees alike arrive in trucks at Nine Elms, and the buyers go over there and make the best bargains they can. A truck-load of Holly may cost between £5 and £6; the buyer divides it into smaller quantities, and so manages to touch a profit.

Two Special Varieties.

There are one or two special kinds of Holly which fetch much higher prices. One has pure white berries, and is sent to the market in small bunches, and mainly used for making buttonholes. Another is the variegated. These two varieties, together with the common Holly of the red berries and the dark and glossy leaves, are sent to New York as the proper companions of the French Mistletoe already referred to, and, naturally, they also are bought at high prices by people who have not forgotten tradition. The chief part of the Holly which actually gets to Covent Garden comes in the form of wreaths. There are costers who take advantage of the natural laziness of humanity at large to manufacture these and dispose of them to the salesmen, through whose agency they pass to the shops and so to private individuals.—("Morning Post.")

Royal Horticultural Society.

Scientific Committee, December 18th.

PRESENT: Dr. M. T. Masters (in the chair), with the Rev. W. Wilks, Mr. Michael, Mr. Veitch, and the Rev. G. Henslow, Hon. Sec.

Quercus R., sessiliflora.—Mr. Wilks showed leaves with petioles and sessile acorns of this variety, and remarked upon its rarity in the woods near Croydon. He had only met with two, but very handsome trees, about 100 yards apart, and probably 150 years old. He observed that this form of the Oak keeps its leaves longer than *Q. R.*, pedunculata, which is the commoner of the two varieties. The leaves are inclined to be tomentose below, giving a silvery appearance. Sir J. D. Hooker, in "The Student's Flora," records this character as belonging to *Q. intermedia*, a subspecies with short petioles and peduncles. Dr. Masters remarked upon the scarcity of the tree in Kent, and that it formerly, and perhaps still, grows at Brockley.

Maclura aurantiaca, fruit.—An unripe fruit of this American tree was sent by Mr. Jas. Vert of The Gardens, Audley End. It is known as the Osage Orange, and is a native of the Southern United States. It is allied to the Mulberry, and, like that, has a compound globular fruit. The tree, being spinescent, is often kept dwarf, and employed as a hedge plant. The golden fruit, about the size of an Orange, is not edible.

Fruit from old Melon seed.—Mr. Th. Sharp, Westbury, Wilts, describes his experience in raising Melons from old seed as giving better results than from young seed. His observations are as follows, which entirely confirm that of previous observers:—"In a small Melon house I noticed two plants which were very vigorous and survived the first crop. They produced a good second crop of female flowers, but somewhat smaller, as were the male flowers, than usual. In the same house was a batch of young plants, with good male blossoms. I fertilised the females of the older plant with the pollen from the younger. The crop of fruit was nearly double that of the first. The fruits were large and of excellent quality throughout. A year or two afterwards, having to supply ripe Melons in May and onwards, and having noticed that plants from old seed produced a less succulent growth than did those from young seed, for four years I raised my plants from old seed, always growing a few plants from new seed. I then fertilised the female flowers of the older plants with the pollen of the younger, which plants were invariably the more robust. The resulting fruits were more reliable in good quality, and though the female flowers had been small, the fruits were large, weighing from 3 to 7 lbs." Mr. Henslow has given very similar experiences on the Continent in his "Origin of Floral Structures," p. 247; M. F. Cazznola, in addition, found that Melon plants raised from fresh seeds bore a larger proportion of male than female flowers; while older seed bore more female flowers than male.

Ornithogalum lacteum.—Mr. Veitch brought a beautiful spike of this plant in full blossom. It was especially interesting as having been sent in S. Africa from Table Mountain on November 27th. It was then put into the refrigerating chamber of a ship on the 28th, and thus had lasted exactly three weeks in a perfectly fresh state, illustrating the possibilities of the transport of cut blossoms from the colonies.

Seakale, defective.—Mrs. A. Williams, of Coed-y-Maen, Welsh Pool, sent samples of Seakale; they were thin, and carried numerous buds on the crowns. This was the result of defective soil, described as a stiff one and damp, imperfect nourishment, and neglect in removing the superfluous buds, instead of leaving one only in which the energy should be concentrated.

Elm trees at Bath dying.—Mr. Milbourn, superintendent of the Botanical Gardens, Victoria Park, Bath, records the dying of some five Elms:—"The trees were planted between fifty and sixty years ago. They

form part of a line which still remains apparently healthy. The trees in question are situated on the base of a sloping bank running E. and W. On the S. side is a stone wall from 6 to 8 feet in the foundations. The subsoil is blue clay. Consequently, the trees have root room only one side. Moreover, the last two or three seasons have been very dry. In addition to this a destructor has been erected 200 yards off; also close at hand are the gasworks. Matter is conveyed in the air from both these works, as it is deposited in the form of a black oily scum on the lake situated a little N. of the Elms." As Professor Oliver showed in his paper on "The Effects of Urban Fog upon Cultivated Plants" (Journ. R.H.S., xvi. p. 1), the extremely poisonous nature of vapourised carbonaceous products, there would seem to be ample cause of an injurious influence upon the trees, apart from the want of freedom in root production.

Double Cyclamen.—Dr. Masters reported as follows upon the specimen sent to the last meeting from Messrs. Ker of Liverpool: "In these flowers there were five sepals, five distinct petals, no stamens, but several rows of additional petals. The ovary was normal."

Plants from Cambridge Botanic Gardens.

Mr. R. I. Lynch forwarded the following interesting species, for which a unanimous vote of thanks was passed, and to the three first named were awarded botanical certificates: *Kleinia pendula*, with fleshy stems and scarlet heads of flowers, from Somaliland; *Kalanchoë marmorata*, another fleshy plant, and *Nematanthus longipes* (Gesneraceæ). A few observations are here added. The genus *Kleinia* is a Groundsel, or *Senecio* with fleshy stems; *K. neriifolia*, the "Barode," being a native of the Canary Islands; most of the species are S. African. *K. pendula* has a rod-like fleshy stem the thickness of a pencil, from which a long pendulous peduncle arises at the apex. The leaves are reduced to minute prickles. *Kalanchoë* belongs to the Crassulaceæ, is from tropical Africa, but has species in Asia and Brazil. It has tubular, greenish-white flowers, nearly 6 inches in length, and fleshy obovate leaves. *Nematanthus longipes* has sub-fleshy lanceolate leaves, and long scarlet tubular flowers protruding from one side of the calyx. It belongs to Gesneraceæ. There are only three or four species, all natives of Brazil.

Phylla ericoides (Rhamnaceæ), called Bruyère du Cop, is a Heath-like plant, with terminal clusters of minute white flowers.

Lindenbergia grandiflora (Schophularinæ), figured in the October number of "Bot. Mag.," is a genus with yellow flowers, and nearly allied to *Mimulus*. There are eight species in E. Africa, Arabia, E.I., and the Malay Archipelago.

Senecio vulgaris × *S. squalidus*, a remarkable natural hybrid between these two British plants, the former being the Groundsel and the latter, naturalised on old walls at Oxford and elsewhere. The flowers are small ($\frac{1}{2}$ inch from tips of ray florets) with the foliage of Groundsel. It comes perfectly true from seed, and has commenced being a weed in Camb. Bot. Gardens. It is said to grow wild with its parents near Cork.

Cardamine chenopodiifolia is remarkable for bearing perfect seed, both above and below ground. Mr. Lynch observes that he has two sets of plants—one always raised from seeds out of the subterranean pods, and another set always raised from the other seeds, in order to see whether in course of time any modification of habit may arise in consequence of growing always from seed produced in the same way. The white flowers are excessively minute, and are fertilised in bud, the anthers being closely adpressed to the globular stigma, the conditions usually prevailing with normally self-fertilising Crucifers. The subterranean pods are white and spindle shaped, and a quarter of an inch in length. They contain one or two seeds, being separated by a delicate white membranous false dissepiment. They are attached to slender pedicels, 1 inch long, which turn abruptly downwards from their point of insertion in the stem. These are doubtless the result of cleistogamous buds.

Heliamphora nutans.—The flower consists of five or four sepals, no petals, many stamens, the pistil having a long style and truncated apex, not spreading into an umbrella-like expansion as in the allied genus *Sarracenia*. There is but one species, a native of Venezuela.

Begonia venosa.—This is remarkable on account of its fleshy leaves and large scarious stipules, both features being characteristic of hot and dry climates.

Cecropia dichotoma, with tubular flowers, the tips only of the corolla remaining coherent. *C. stapeliæformis* and *C. elegans* and *C. Woodii* all remarkable fleshy climbers, the last bearing tubers and pendulous. It has been figured from the Cambridge plant in Bot. Mag. of March, 1900.

Bonplandia geminiflora (Polemoniaceæ), is remarkable for the corolla being lipped, two upper petals cohering above the tube and provided with a white lined base as a "guide," the three other petals project forward, upon which the subdeclinate stamens rest. The long style with three spreading stigmas project a quarter of an inch beyond the anthers. It is a monotypic genus, of one species only, and a native of Mexico.

Nepenthes Veillardii, a species of Pitcher Plant, with small pitchers 3 inches long, and remarkable for the white border round the incurved red margin. The lid is red, and the under side of the leaves russet but smooth.



Late Grapes.

HAVING read the leader on page 481 of the Journal on "Late Grapes," I would like to make a few remarks on that variable Grape, Mrs. Pince. I have had to do with this variety for many years past, and in several places, and in no two has it behaved the same, although grown under similar conditions. When at Stnpton Hall we had one Vine in the Muscat house which did exceedingly well in every way; fair sized bunches, colour all that could be desired, but I believe we never tried its keeping qualities beyond the new year. When I went to Ireland I introduced it into a vinery there, and, after trying it for several years, I became disgusted with its behaviour and did away with it. Here I found it again, and a great fault with it is its shrivelling propensity. It shows a heavy crop of large bunches, sets freely, and colours fairly well. Not far from here this Grape is depended upon for a winter supply—I have seen it kept in bottles until May. At this place the bunches are small, colour good, and it does not shrivel as soon as ripe. When the cultivation of Mrs. Pince is thoroughly mastered and understood, as assuredly some day it will be, I believe it will be the principal black Grape grown for flavour for winter use. Many of us will remember the failures which occurred when we first attempted to grow Madresfield Court Grape; now, happily, the difficulties have been overcome. Let us persevere and hope this will soon be the case with such a high-flavoured Grape as Mrs. Pince. Perhaps some growers of this Grape will give the readers of the Journal their experience of it, as "H. D." has suggested; I hope also those gardeners who have failed in growing it satisfactorily will contribute their quota, as I am one of those who believe there are many most excellent lessons to be learned from failures which occur otherwise than through neglect or carelessness.

There are two old black Grapes of which we now hardly ever hear—viz., Black Prince and West's St. Peter's. In my younger days the two varieties were largely grown. I wish some of our noted Grape growers would take these two varieties in hand. I should then expect to hear of bunches of Black Prince between 2 and 3 feet long with a dense blue-black bloom. And what has West's St. Peter's done to be thus neglected by most growers? This is a free-bearing Grape, sets readily, has berries the size of Hamburgs, with excellent colour, a nice bloom, and keeps well into the new year, when the flavour will be found equal to a Hamburg.—J. EASTER, Nostell Priory Gardens.

Gardeners' Duties.

THE interesting article on a gardener's duty (page 514) by J. White is rather a difficult one to open for discussion, as we seldom find two employers of the same nature, or very rarely so. But it is quite true what is said in many instances—that the master comes round on Sundays to seek the gardener to talk over business matters concerning the gardens, more especially business gentlemen who are away all the week. In this case the gardener often has to walk round the grounds talking over plans and alterations for the future, work that is really for week days, or should be. With the vegetable man (whose duty it is to get vegetables and take to the hall) this should never be, and can easily be done away with if the cook or kitchenmaid give their orders on a Saturday, which has been the case in places I have lived at, and if the order was not given on Saturdays, then there was only one course for them to do—go without. This rule should be in all gardens, for if the men on duty had to get everything that is often wanted for the kitchen something else would most likely have to go; but with salads this is easily taken up to the house with the dessert.

Then, with the journeyman on Sunday duty. I think it depends greatly on the head gardener whether they have to do unnecessary work or not. I am sorry to say that many gardeners expect men to take it as an ordinary working day, especially when paid for Sunday duty; and if caught in the bothy, excepting meal times, are soon told about it. I say nothing about this during the summer months, when there is always plenty to do, for, as a rule, one man has perhaps three or four men's houses to look after. But in winter there is not so much to do, excepting damping down and firing; so I think it should be a case of give and take a little. I am sure much watering could be saved on Sundays, before the bedding plants are put out, if the men were allowed to water them on Saturday afternoons. Of course, I know it is a different thing altogether with plants in the houses during the summer months, for it is useless to look after them all the week if we neglect them on the day of rest. But, for all this, I think much unnecessary work might be left over for a working day (they are many for a gardener), which is often expected to be done on Sundays, without loss of any kind to the employer.—J. B., Bucks.

Staging Cut Chrysanthemum Blooms.

As the time is approaching when committees of shows commence to formulate their schedules, it may be desirable to draw attention to the exhibiting of cut blooms on long stalks, and which appeared to have been *en evidence* at the majority of shows this season; thus exhibited, the blooms were more attractive to the visitors than the stereotyped show-board system. With regard, however, to the length of stem best suited for an effective display of the flowers there appears to be a considerable diversity of opinion. Some societies require not less than 18 or 24 inches, others 12 or 9 inches length of stem. The two former lengths are, in my opinion, much too long when displayed in tall vases on staging of the usual height from the ground, whereby too much of the under portion of the bloom is displayed and not sufficient of the upper surface, besides giving them a silted appearance. One of the best effects I saw amongst the various shows this season was produced by having the stems about 12 inches in length above the top of the vase in the five-bloom class for the four blooms, with about 4 or 5 inches in addition for the centre specimen or the one at the back, thus affording an effective display. This latter arrangement, I assume, would best meet a dinner-table decoration, or for the drawing-room, for which the long-stemmed arrangement is ostensibly intended.—G.

Women as Gardeners—A Protest.

MY attention has only lately been called to the remarks by "A. D." on "Women as Gardeners," which appeared in the *Journal of Horticulture* for October 25th. As one who took a preparatory course in horticulture at the Lady Warwick Hostel, Reading, I desire to protest most strongly against "A. D.'s" sweeping conclusions.

I admit that in some respects the method of teaching practical horticulture at the hostel might be improved; that is, however, a question of management, and not of the qualifications of the students. It is unreasonable to condemn women as gardeners upon impressions obtained from a visit to this one establishment. I would like to know what your correspondent means by the term "irresponsible women."

I have worked both in private and in nursery gardens, and am at present employed in the Royal Gardens, Kew, and so far as my observation goes, a finished style comes only after long practical experience. "A. D." does not appear to be acquainted with the work that is being done in various parts of the country by women gardeners. Surely to be a head gardener in a private establishment, or a sub-foreman at the Royal Gardens, Kew, is evidence that all women gardeners are not the failures "A. D." would have your readers believe.

We ask for fair play and no favour in any comparison made between us and the young men who, like ourselves, are in training for gardeners.—E. M. G.

Aids to Profitable Culture.

I READ "F.'s" remarks on the importance of water, and more especially the utility of sewage (page 486) as amongst the most important aids to successful culture with much interest, as no doubt did others in the southern counties, where during the past summer water has been anything but plentiful in many gardens. The facts adduced as to the quality of vegetables and grass produced by the application of sewage water may help to remove the false impression present in the minds of some, that there is something unwholesome in vegetables to which sewage has been applied; and to those about to build or to re-sewer their houses it may well lead them to consider whether this vexed question of sewage disposal cannot be turned to some profitable account.

The only question with too many seems to be, "How can we get rid of it?" Few seem to think of asking their gardener what he would suggest. More often the builder or the clerk of the works advises it to be run into a wood if there is one handy, or to a field, and after passing through settling tanks let it take care of itself. The former plan was adopted in the case of my present charge. The outfall was so close to the mansion that it became a nuisance by the time it had been occupied six months, and it had to be carried 200 yards further away. On asking the clerk of the works why they did not drain it towards the kitchen garden (which was in the opposite direction), his answer was, that "the wood was there to hide it" (it failed to hide the smell); and the builder's foreman said that "the prevailing wind was from the south-west, and the smell would come with the wind if taken in that direction." Those are the only reasons that could be given for conveying it in an opposite direction to the garden, which is totally unprovided with a water supply. Our rainfall only amounted to 7 inches from May to September inclusive, and I may safely say that very little of that water would have run to waste had it been brought to the vegetable quarters and fruit trees. This is what a gardener has had to suffer through the wind blowing from the "south-west;" and they are still doing the same thing.

Recently a neighbouring estate was sold on the death of its previous owner. It has since been thoroughly "done up," an elaborate system of sewers have been put down at great cost. The main is run straight south, a tank is made in an outlying shrubbery, and the outfall runs into a series of drains spread out like the four fingers and thumb of a

man's hand, emptying themselves in the grass of what was a beautiful park viewed from the mansion. It may be greener in the future. Now I have known this place for a number of years, and have seen the garden pony carting water day after day from a distant pond, being weeks together without water for even their plants, not to mention Vine and Peach borders. The new proprietor has not only run the sewage out of reach of his kitchen garden, but he has actually run every drop of rain water off the roof into the sewers. I begin to feel sympathy for the gardener who will shortly come into this place, and for all gardeners who find themselves without water when rain fails and the sun shines as it did for weeks together, during the last two summers.—R. I.

Strawberries in Pots.

THE commencement of swelling in the crowns usually marks the advent of aphides on the developing leaves and trusses. A close scrutiny for these pests must be made on the earliest stock—those started at the beginning of December, which are now pushing growths from the crowns—fumigating repeatedly until the pests are entirely exterminated. The temperature should be advanced a few degrees by day, but it is advisable to seek this from sun rather than procure it from fire heat. A temperature of 50° to 55° at night is sufficient for the present, and 60° to 65° with sun and a free admission of air. This will insure steady and sturdy development, and the more slowly the plants are brought on the stronger the blossom and better the setting. This means relying greatly on sun heat, which is very uncertain during the winter months, therefore the plants have to be brought on independently of the weather, and as near the glass as safe, in order to secure a stout growth.

Syringing the plants in early part of fine days will be advantageous, also early on fine afternoons, but avoid a close saturated atmosphere. Examine the plants daily, and apply water to those which require it. A plant with the soil too dry cannot grow, but is wasted, exhausting the stored juices and one with the soil too wet is stagnated, the soil being sour and the plant unhealthy.

Other plants should be started for affording ripe fruit in late March or early in April. There are now so many varieties that it is difficult to make choice of a few so as to include the best. For marketing it suffices if the fruit be of a good glossy colour, large or even sized and shapely, quality being of little account, as sugar and cream make up for that deficiency. La Grosse Sucrée, Royal Sovereign, and Vicomtesse Héricart de Thury form a trio hard to be beaten, while Auguste Nicaise will satisfy most people in need of a big crop, and large fruit. Remove the decayed leaves, and, if necessary, rectify the drainage, washing the pots clean. Loosen the surface soil, and top-dress with horse droppings rubbed through a half-inch sieve. This and a pinch of superphosphate acts well on the roots, causing them to push fresh fibrelets freely. The plants may be introduced to a Peach or Strawberry house if one be at command.

Plants for drafting to houses as started should be placed in frames, so that they will be fit for work when required; but they must not be kept dry, and the pots ought to be plunged if there is danger of frost, as it is absolutely necessary that they be kept from damage of all kind. Plants for introducing later will be quite safe in their quarters out of doors plunged in ashes to the rim, and a light covering of dry fern or litter may be given in severe weather, allowing to remain on whilst frost-bound, removing in mild weather, but not exposing frozen plants from beneath protection to the direct rays of the sun.—PRACTICE.

Death of Mr. Philip Crowley.

THE entire world of gardening will deeply regret to learn of the death on December 20th of Mr. Philip Crowley, of Waddon House, Croydon. His was a busy life, and yet he found time therein to follow the hobby of gardening, in which his tastes were catholic. Fruits, flowers, and vegetables alike came within his sphere, and all were admirably grown on his fine estate near Croydon. As a chairman he was exceptionally popular with every member of committee; while as a man, his urbanity and unfailing kindness gained for him an appreciation that falls to the lot of few—that of universal esteem and respect. In the last issue of the Journal of the Royal Horticultural Society his portrait and a life sketch were given, and the latter we reproduce, with a comparatively recent photograph.

"Philip Crowley, Esq., F.L.S., F.Z.S., treasurer of the Royal

Horticultural Society, and master of the Worshipful Company of Gardeners in the City of London, is the son of Abraham Crowley, and was born at Alton, in Hampshire, on August 28th, 1837. He was educated privately, and since 1857 has been a partner in the brewing firm of Messrs. Crowley of Alton and Croydon. In 1863 he married Anna, only daughter of the late John Warner, Esq., of Hoddesdon, and since 1869 has lived at Waddon House, Croydon. Very early in life he displayed a strong love for natural history, and possesses what is considered to be the largest and finest collection of birds' eggs in the world, including representatives of nearly 4000 species, and one of the largest and most perfect collections of exotic butterflies. He has always taken great interest in horticulture, and has tried many and various experiments in fruit growing at Waddon, but the soil and atmospheric conditions have been against him. He has also cultivated Chrysanthemums on a large scale, as well as many Orchids and foliage plants. He has for many years been chairman of the Fruit and Vegetable Committee of the society, and on the resignation of Dr. Morris in 1890 he was appointed treasurer of the society with a seat on the council

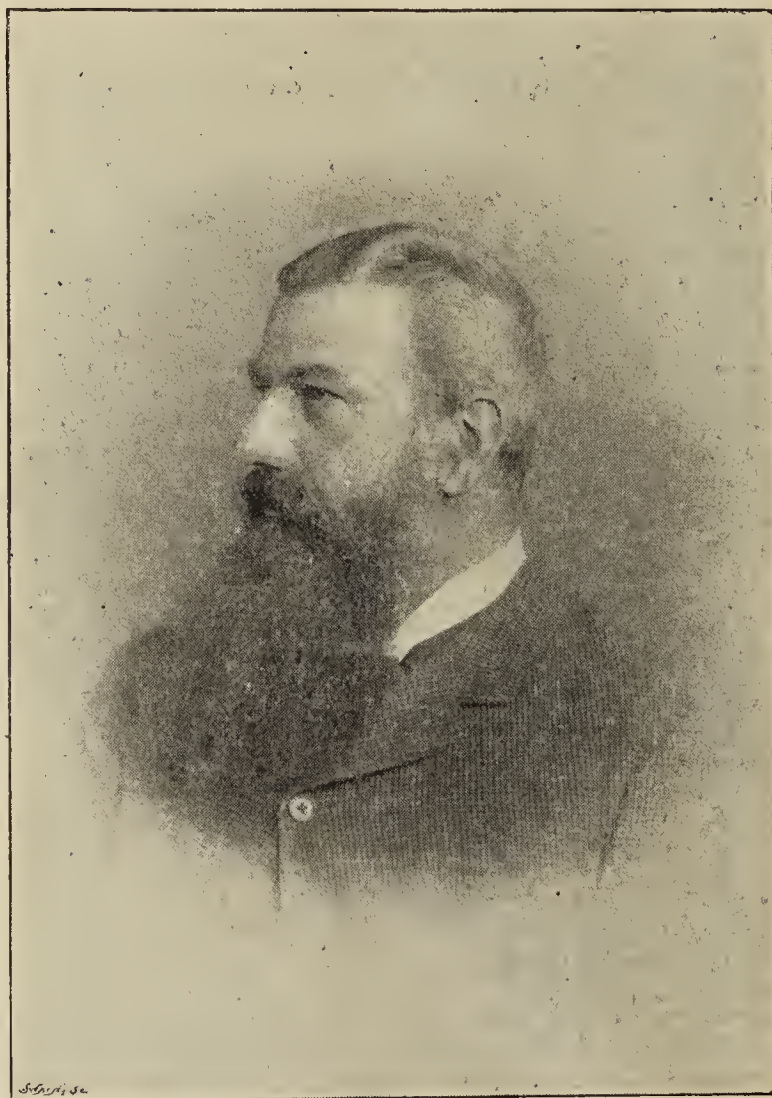
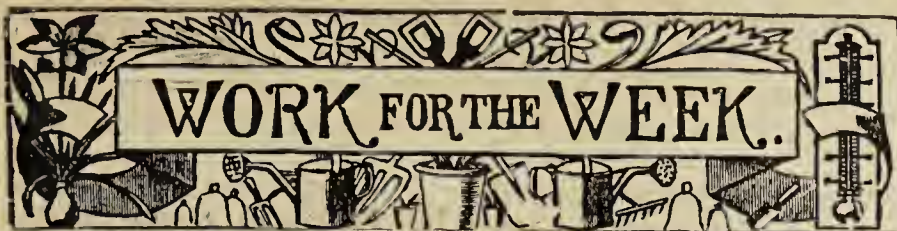


FIG. 152.—MR. PHILIP CROWLEY.

In 1899 he was elected master of the Worshipful Company of Gardeners, and was unanimously re-elected for a second year of office in 1900.

"As treasurer of the Royal Horticultural Society he has paid unremitting attention to the finances of the society, whose prosperity is in no small measure due to his thorough business aptitude and knowledge and his constant and watchful care, and as chairman of the Fruit and Vegetable Committee he has made himself equally respected and beloved by every member of the committee by his firm but gentle rule and his unvarying courtesy and cordiality to all, and in both offices alike he has been remarkable for the ungrudging and unwearying amount of personal work he has bestowed, and for the almost infinitesimal amount of credit which he has been willing to accept. He has ever been one of those most kind of all kind helpers—viz., those who work their best and hardest and then make light of it. May the Royal Horticultural Society never be without such a treasurer!"

On Monday, December 24th, the remains of Mr. Crowley were interred in Shirley Churchyard, near Croydon. The weather was foggy in the metropolis, and this militated against a large attendance of those persons who would have desired to pay their last respects to the memory of an esteemed colleague and friend.



Hardy Fruit Garden.

Pruning Wall Trees.—The earliest attention should be given to the pruning, regulating, and nailing of wall trees. Included in the operation also is the cleansing of the branches and shoots with some of the most approved insecticides, if any of the trees have been infested in the course of the season with red spider, aphid, scale, American blight, moss, or lichen.

Fan-trained Trees.—This, the best form of tree for nearly every size of wall, admits of considerable scope in training and manipulating the branches so as to utilise the available space in the most profitable manner. Apples, though not grown largely on walls, may be trained in this form, while it is the best for Apricots, Peaches, Nectarines, Plums, Cherries, and Figs. In the case of Apples and Pears, the branches must be permanent and furnished with spurs by the usual method of originating them. The advantages of this style of tree, even when furnished with spur-pruned branches, is that these may be replaced by younger shoots whenever it is found necessary to discard old extensions. Eligible shoots situated in favourable positions can usually be found. The crowding of permanent branches and the rank training in of secondary shoots must be strictly avoided. Clumps of spurs ought not to be too dense, or be allowed to elongate unduly. The young shoots emanating from the spurs, assuming that they were summer pruned, may be shortened now to two or three buds. Partially shorten the leaders of any branches not yet fully extended.

Apricots, Plums, and Cherries may have a combination of branches spur-pruned, and young wood laid in to furnish vacant places. Much of the winter pruning of these trees consists in cutting out the oldest exhausted branches and filling in with younger. With the best managed trees, however, this is not done to any large extent in one season, but is accomplished gradually as needed. Exhausted branches and old bearing growths may be cut from Peaches and Nectarines, but the final pruning and nailing-in may be wisely reserved until February, in the meantime allowing the branches to hang loosely, but safely, away from the wall.

Horizontally Trained Trees.—Pears and Apples are the only fruits which succeed on this form of training. The branches must not be disposed too closely, or nearer together than a foot. Should they be closer than they ought, owing to neglect, the present time is a good opportunity to thin them out, and also to reduce the spurs where they may be of undue length. Frequently the summer shoots are left unshortened, in which case they must now be pruned back to several buds, which, however, are more likely to be wood than blossom buds. Partially prune back young leading shoots.

Cordon Trees.—The upright and diagonal forms of cordons are among the most profitable trees for walls, especially in the culture of Apples and Pears. The proper distance of the branches is fixed at the time of planting, hence it ought not to be necessary to carry out any thinning, though, should the cordon branches be too thickly placed owing to former neglect in the arrangement of the trees, some must be removed to admit of freshly disposing the rest. A little annual thinning and reducing of the older spurs will be beneficial, and the summer pruned shoots of the current year's wood should be shortened to two buds. Lay in the leaders at full length.

Pruning Bush Apples and Pears.—Where bush trees in the open are not crowded with other trees they are usually fruitful and profitable. The winter pruning is simple, consisting of duly disposing the branches in a regular manner, so that each one receives a maximum amount of light and air. Irregular branches and partially worn-out examples may be cut out, while spurs of undue length ought to be reduced. The current year's shoots shorten to two or three buds at the base. Open bush Apples are less formally trained, more young wood being encouraged, which being well exposed to sun and air forms fruit buds freely, and the unripe tips of the branches only need removal.

Pruning Currant and Gooseberry Bushes.—In dealing with Currants there is a difference in the manner of pruning Black Currants from Red and White. Black Currants should have a good proportion of young growths left, disposing them regularly over the bushes. Also, cut out some of the old bearing growths and exhausted branches. If carefully pruned on these lines annually the trees will be fruitful and healthy. Red and White Currants having a limited number of main branches must have the side shoots shortened to within an inch, leaving no young growths except when some are required to originate new branches. The young wood must then be shortened to 9 inches, and the leaders of any branches not reached full length should be shortened similarly, so that side growths may be produced the following season.

Gooseberries must be well thinned, leaving a fair number of young growths which will fruit freely. Superfluous shoots may be shortened to an inch or be cut out entirely. These will form artificial

spurs furnished with fruit buds. There will also be a number of natural spurs on healthy trees in good positions. Remove sucker growths from the base. Some cultivators spur in all the branches like Red and White Currants, but this is not always safe, owing to birds taking the buds. To obviate this, however, dust the bushes with soot and lime in damp or foggy weather. This dressing acts as a cleanser as well as a deterrent to birds.

Fruit Forcing.

Peaches and Nectarines.—Earliest House.—The trees in the structure closed early in December, and having been started at an early period the previous season, will have the blossom buds well advanced towards flowering. When this takes place syringing the trees must cease, but maintain a genial condition of the atmosphere by damping floors and borders on bright mornings and in the early part of fine afternoons. Trees not previously forced will be several days later in showing colour in the flower buds. When that occurs cease sprinkling, as the petals are liable to become spotted and discoloured if moisture lodges in them. If on examination the inside borders are found at all dry, give a thorough supply of water at a temperature about that of the mean of the house, or slightly in advance of it.

Weakly trees may have tepid liquid manure, supplying it rather thick after the soil has been properly moist with water. Avoid, however, making the soil sodden by needless watering or over-supplies of liquid manure, as this promotes wood-bud rather than blossom-bud development, besides inducing ill-health and attendant diseases from fungal and insect parasites. Where there is a redundancy of blossoms remove those on the under side or back of the trellis or shoots by drawing a gloved hand contrary way of the growths, and thin them elsewhere where too crowded.

Admit a little air constantly, and this, with the warmth in the hot-water pipes, will keep the atmosphere in motion, and moisture will be deposited on the glass instead of on the blossoms, as frequently occurs in a close atmosphere, to the prejudice of their setting fruit. The temperature may be maintained at 55° by day and 50° at night in mild weather, but 5° less in cold weather is more favourable to the trees than the higher temperature, and the setting is not prejudiced if the heat fall to 45° at night, or even 40° in severe frosty weather. For the trees to do good work they must have time, and it is necessary, when the flowers show the anthers clear of the petals, that the structure be freely ventilated, avoiding cold draughts, and not exciting the trees by too much fire heat. To keep them, however, in steady progress, the temperature must be raised early in the day to 50°, and kept between that and 55° through the day, with a little ventilation at the top of the house, not allowing an advance from sun heat without a corresponding increase of ventilation, and having it full between 60° and 65°.

The aim should be to have stout blossoms, sturdy stamens well raised above the pistil, and anthers loaded with abundance of vivifying pollen, well developed pistil, and perfectly formed ovule. These all require to develop, and aëration for their perfecting, then recourse can be had to fertilisation by shaking the trellis, or brushing the flowers with a camel's-hair brush on fine days after the house has been ventilated some little time. The pollen, when ripe, by either of these processes is distributed in a golden shower visible in the sunlight, and when this is the case the set is generally a good one, even without artificial impregnation, and sometimes the air disturbed by that entering by the ventilators, or even the slight disturbance caused by damping the floor and border serves to effect the setting in a satisfactory manner. Under arid conditions lightly syringing the trees has proved beneficial, but it is a practice rather to be avoided than advised.

Second Early House.—To have ripe fruit of the choice second early varieties, as Hale's Early and A Bec (one of the best), and midseason Peaches, as Dymond, Royal George, and Bellegarde, ripe at the close of May or early in June, the trees must be started without delay, but it is desirable to merely close the house, and only employ fire heat to exclude frost up to the new year, ventilating freely at 50°. This will gently incite the sap, and then the buds. Then, at the time named, fire heat should be employed to maintain a night temperature of 40°, and to insure 50° by day, above which ventilate freely. This will bring the trees on sufficiently to insure a sturdy blossoming, and once the flowers make a move it is necessary to keep them in steady progress. Sprinkle the house and trees on fine mornings, and early in the afternoon of bright days, but in dull weather omit the second syringing, as keeping the trees dripping with water has a weakening tendency, inducing wood rather than blossom development. If the house has had the roof-lights removed, the inside borders will have been thoroughly moistened through to the drainage. This is imperatively necessary to secure satisfactory results, but where the roof-lights are fixed the border may need watering, and if dry a repeated supply, so as to thoroughly moisten the soil through to the drainage. Outside borders should be protected with dry leaves and litter, a few inches thickness sufficing to exclude frost.

Succession Houses.—The trees are best pruned, and the house cleansed whilst the buds are quite dormant; indeed, it is desirable to attend to these matters as soon as the leaves have fallen, as then the insect pests are not given time to hibernate. Loosen the trees from

the trellis, cut out weak attenuated branches, and where crowded thin well, having sufficient of last season's growth for bearing, with space between them for training in those intended to displace them. Thoroughly wash the house and the trees with soapy water, following with an insecticide, for aphides, red spider, thrips, and scale lurk about the trees in some form, ready to become active and multiply when forcing operations are commenced.

Secure the branches at once to the trellis, leaving sufficient room in the respective ligatures for the swelling of the branches and shoots. Tight tying is often a prolific source of gumming. Remove the loose surface soil down to the roots without disturbing them, and supply good turfy loam in lumps from the size of a nut to an egg, with an admixture of about one-fifth of well decayed manure, not covering the roots more than 2 or 3 inches.

Young Gardeners' Domain.

Broccoli.

THIS is a crop that well repays good culture, as it is always appreciated. To be certain of obtaining a satisfactory crop the ground should be carefully prepared by well trenching 2 feet deep and manuring liberally. This operation ought to be performed some considerable time before planting, preferably for a previous crop, as it is essential that the soil should be quite firm. Provided the ground has not been too much impoverished an old Strawberry bed from which the plants have been merely chopped off with a spade or hoe will be found an excellent position for Broccoli. This, however, will not be the case in establishments where Strawberry beds are frequently being renewed, and are liberally treated whilst in bearing.

The reason for having the soil firm is that under these circumstances the plants make hard, woody, fibrous stems instead of soft, sappy ones, as would be the case on loose rich soil, and are consequently better able to withstand frost. Another cause of failure from severe weather is planting too thickly. This is often done where space is valuable; but it is false economy, for is it not better to plant half the number and have a good head to cut from each plant, than to plant thickly and lose the greater part during the first spell of severe weather? I find it excellent practice to plant single isolated rows, for the sun and wind can then circulate amongst the plants and harden them much better than when in beds. I once had occasion to plant a single row of Broccoli in an open field, and these withstood the winter much better, and produced finer heads than those grown in the kitchen garden. It is also a great mistake to plant Broccoli between rows of Potatoes, as is frequently done. Not only does the haulm shade the plants to a certain extent, but in removing the Potatoes the soil is loosened about the Broccoli, which is very undesirable, as has been pointed out above.

Sowings of the different varieties may be made during April, beds of good friable soil being prepared on a warm border. It is immaterial whether the seeds be in drills or broadcast provided they are sown thinly. I find that most men sow much thicker in drills than they do when broadcasting the seeds. It is important, too, that the plants be got off the seed-bed before they become starved and crowded. Waiting for rain to obviate the necessity for watering is often the excuse for deferring this operation; but it is a mistake, and it would pay better to apply water when required. After being transferred to their permanent quarters care should be taken that they do not suffer from drought. By careful management, and the selection of proper varieties, Broccoli may be had to follow the later Cauliflowers, and a supply maintained in favourable seasons throughout the winter and early spring. After the heads begin to form it is advisable to look over the beds daily, cut all that are ready, and if not required for use at once store in a cool shed or other frost-proof structure. They will keep fresh under these conditions ten or twelve days, whereas they would quickly spoil if uncut.

Good varieties for autumn use are Early Purple Cape and Veitch's Self-protecting; for winter, Dickson's Perfection, Winter White, Snow's Superb Winter White, and Improved Purple Sprouting; for early spring Adam's Early White, Frogmore Protecting, and Leamington; and for late spring Dickson's Omega and Late Queen.—W. R. R.



All correspondence relating to editorial matters should be directed to "THE EDITOR," 12, Mitre Court Chambers, Fleet Street, London, E.C. It is requested that no one will write privately to any of our correspondents, seeking information on matters discussed in this Journal, as doing so subjects them to unjustifiable trouble and expense.

Adiantums Unsatisfactory (J. D.).—It is probable that the fronds continually springing up are really eaten by the black Vine weevil, *Otiorhynchus sulcatus*, which is at times very destructive to the young fronds, cutting them off close to the soil. The pest is somewhat difficult to find, as it falls to the soil when alarmed and shams death, being the colour of the potting material and not readily detected. It feeds at night, therefore the plants should be carefully examined after dark with

a lantern, entering the house cautiously and not turning on the light until by the plants. Possibly the culprits will be detected, and should be collected into a vessel containing a little paraffin oil. This is the surest method of dealing with this pest; we have frequently taken the pots one after the other and shaken them sharply inverted over a white cloth, the beetles dropping, and are easily collected. As the plants have been improved by dusting them with lime and soot, we should continue the procedure, especially that of lime, which often has a good effect on the soil and aids the plants well in their growth.

Bunching French Lilac (W. Weston).—The accompanying illustration and paragraph will convey all the information you require. Bunches of Lilac for vases are in great demand, and to produce the most graceful effect with a limited number of trusses the procedure is as follows:—A handful of damp straw is folded as represented, and tied at A, giving it the form of a Mushroom. The stems of the Lilac are forced through, the ends coming out at B. For hiding the straw and

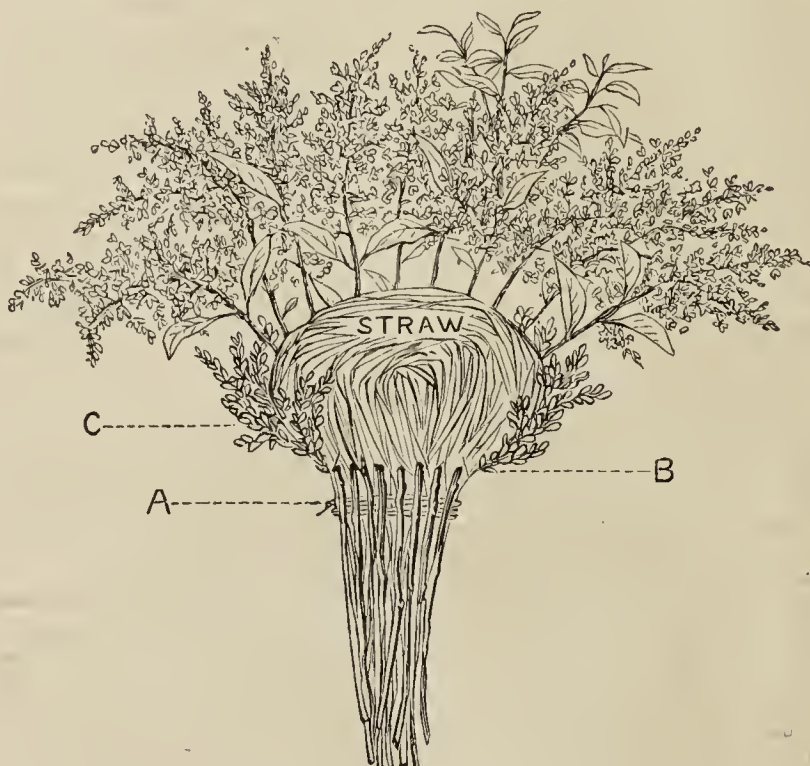


FIG. 153.—BUNCHING LILAC.

part of the stems a fringe of Box sprays is secured at C, and a large yet free bunch is provided.

Blood for Vine Borders (M. R.).—The blood you can obtain now in a fresh state may be diluted with from ten to twelve times its bulk of water, and applied to borders inside and out in about the same amount as in an ordinary watering. The blood thus used is a valuable fertiliser for Vines and fruit trees, the blood itself consisting of about 80 per cent. of water, 2½ to 4 per cent. of nitrogen, and fractional parts of 1 per cent. of phosphoric acid and alkali salts. To preserve the blood for use in a dry state proceed as follows: In a trough or shallow box thoroughly mix the blood with about 5 per cent. of freshly slaked apparently dry lime, and cover the mixture, with a thin layer of lime. This mixture, when dry, can be kept for a long time without appreciable change. About 4 ozs. of the blood thus prepared may be used per square yard. It is also an excellent plan to mix the blood with wood ashes, one bushel of wood ashes to 6¼ gallons of blood, this being prepared similar to that of lime, and when dry can be used in the same manner, but it is a much better all round fertiliser and of especial value for Vines and fruit trees, applying 4 to 8 ozs. per square yard in advance of their starting into growth, and pointing in lightly.

Ferns for Shaded Houses (S. L.).—The house would answer best for hardy Ferns of the choicer sorts, such as *Adiantum capillus-Veneris*, *Asplenium marinum*, *Athyrium filix-foemina* vars. *Barnesi*, *cirtum multifidum*, *formosum cristatum*, *Pritchardi cristatum*, and *Victoriæ*; *Blechnum Spicant ramosum*, *Lastrea opaca*, *L. dilatata ramo-cristata*, *L. filix-mas cristata angustata*, *L. filix-mas Iveryana cristata*, *Onoclea sensibilis*, *Osmunda interrupta*, *O. spectabilis*, *O. regalis cristata*, *Polypodium vulgare ramosum*, *Polystichum aculeatum proliferum*, *P. angulare cristatum*, *P. angulare Wollastoni*, *Scolopendrium vulgare apiforme*, *S. crispum maximum*, *S. Valoisii*, *Struthiopteris japonica*, and *Woodwardia angustifolia*.

Spikes of Coelogyne cristata Damping Off (J. McM.).—The flowers are decayed in the sheaths, this probably arising from the plants being syringed, and the water resting on the sheaths. Water should be supplied without wetting the leafage or flower spikes. Of course the plant may not have been so treated; or if it has, its constitution may be weaker than the adjoining one, and in consequence more readily affected by damp.

Ornithogalum lacteum (G. B.).—This plant should be grown in a cool greenhouse in well drained pots in a loamy soil. Flowers are usually borne in late spring or early summer. Plenty of water is required during the growing season, reducing the supply as the leaves begin to decay. After the leaves have died a rest of several months' duration is required. When repotting is necessary it should be done just before growth commences. It rejoices in plenty of sun and air.

Frost and Snow Table Decorations (S. W.).—Various methods are adopted for giving to branches of Larch, Spruce, Gorse, and other materials the appearance of being coated with frost or snow. One is to dip them in whitewash, and then dust finely powdered glass over them to add a glistening appearance. A lighter dressing, to represent frost rather than snow, is applied by just dipping the materials in water (containing enough size to make it adhesive) and then dusting them with finely powdered whitening and glass. If you first try a few experiments you will soon be able to secure the appearance you desire. There is we believe a special preparation now made for the purpose, but we have had no experience in the use of it.

Name of Insect (W. J., Walton-on-Thames).—The specimens sent are chrysalids of some small butterfly, as appears by their angular form—probably those of one of the small whites, either *Pieris rapæ* or *P. napi*, but this can only be ascertained by their emergence in spring. No caterpillar of any British butterfly is recognised as a foe to the Vine, but some species occasionally feed upon plants not their wonted food, owing to some eccentricity of the mother insect. Or, it may be, the caterpillars fed up during autumn on some adjacent plants, and resorted to the Vine rods as offering a convenient spot for suspension through the winter. Anyway, it is not very likely the caterpillars will hereafter appear on the Vine to do mischief.

Ashes of Burnt Horse Manure with Deal Wood Chippings (Constant Reader).—The ashes are mainly, but not exclusively, a potassium manure. If exposed to the weather for any length of time, or leached, they rarely contain more than 1 or 2 per cent. of potash and about 1 per cent. of phosphoric acid. The ashes are valuable for leguminous crops, such as Broad and Kidney Beans and Peas, and as a top-dressing on lawns, grass lands and pastures. For the Brassica tribe the ashes are effective, but should be mixed in the proportion of 8½ parts of the unleached ashes and 6½ parts of bonemeal, applying the mixture at the rate of 10 lbs. per rod, or 4 ozs. per square yard, afterwards pointing in lightly. The mixture is also effective for fruit trees, applying in the autumn or very early spring.

Propagating Lemon-scented Verbena (H. S.).—The best plan is to provide thrifty young plants in the spring and grow them on for the season. As the wood ripens, give them less water until they are at rest, when it must be nearly withheld. At the end of January or beginning of February bring them into light and warmth, and water thoroughly. As the plants are merely intended to furnish cuttings they need not be pruned, only it is an advantage to cut off the unripened points of the shoots so as to cause them to push strong growths from the parts that remain. When the young shoots are about 3 inches in length, they should be taken off with a heel, have the base trimmed smooth, the leaves removed about half their length, and then inserted in sandy soil, placing the cuttings around the side of pots in the usual way, and then plunging in a mild bottom heat, or standing in a propagating frame, keeping rather close, and shaded from bright sun and too powerful light. Care must be taken not to overwater, yet keeping moist, and the atmosphere not too close and stagnant, yet sufficient to prevent flagging. The cuttings will root in about three weeks, when, being gradually hardened off, they may be potted off singly and grown on in gentle heat, ultimately hardening off and transferring to a greenhouse, or even outdoors at the early part of June. The plants will require stopping to produce bushy plants.

Names of Fruits (E. C. W.).—Maréchal de Cour. (E. D. S.).—Beauty of Hants. (D. A.).—1, Bramley's Seedling; 2, Tower of Glamis; 3, Warner's King. (S. J. G.).—Excellent examples of Dume-low's Seedling; this variety is known as Wellington in the neighbourhood of the metropolis, and as Normanton Wonder in the Midlands. (C. F.).—1, Cox's Orange Pippin; 2, Claygate Pearmain; 3, Reinette de Canada; 4, Baumann's Red Winter Reinette; 5, Foster's Seedling. (J. T.).—1, Golden Winter Pearmain; 2, Count Pendu Plat; 3, unknown, probably local; 4, small Cox's Orange Pippin; 5, large Cobham.

Names of Plants (H. A.).—1, *Cyperus alternifolius*; 2, *Ardisia crenulata*; 3, *Adiantum formosum*. (W. R.).—1, *Cypripedium insigne*, good form; 2, *Lælia anceps*; for particulars of cultivation see article by "J. P. B." on page 573. (A. N.).—1, *Libonia floribunda*; 2, *Cuphea platycentra*; 3, *Begonia manicata*; 4, *Daphne indica*. (G. W. R.).—1, *Stachys Sieboldi*; 2, *Erigeron speciosus*; 3, *Phyllocladus* sp. (probably *P. rhomboidalis*); 4, *Selaginella Emiliana*; 5, *Libonia floribunda*; 6, impossible to name without flowers.

Covent Garden Market.—December 26th.

Average Wholesale Prices.—Fruit.

	s. d.	s. d.		s. d.	s. d.	
Apples, table, $\frac{1}{2}$ bush. ...	2	0 to 4	6	Oranges, case	6 0 to 15 0	
„ cooking, bush. ...	2	6	7 0	Pears, crate	3 0	7 0
„ Californian, case ...	7	6	9 6	„ stewing, case of		
Chestnuts, bag, from ...	5	0	15 0	72 to 120	4 6	6 6
Cobnuts, doz. lb., best ...	4	0	5 0	„ Californian, case	15 0	18 0
Grapes, black	0	6	2 6	„ $\frac{1}{2}$ case	4 0	9 0
„ white, per lb. ...	1	6	5 0	Pines, St. Michael's, each	3 0	6 0
Lemons, case	9	0	16 0	Walnuts, bag	4 6	6 0
Melons, house, each ...	0	6	2 6			

Average Wholesale Prices.—Vegetables.

	s. d.	s. d.		s. d.	s. d.		
Artichokes, green, doz. ...	2	6 to 4	0	Mushrooms, forced, lb. ...	0 8 to 0 9		
" Jerusalem, sieve	1	6	0 0	Mustard and Cress, punt.	0 2	0 0	
Asparagus (Sprue Grass)	0	8	0 0	Onions, Dutch, bag ...	3	6	0 0
" Paris Green ...	4	6	5 0	" English, cwt. ...	5	0	0 0
Beans, French, per lb. ...	0	6	0 9	Parsley, doz. bnchs. ...	2	0	0 0
" Jersey, per lb. ...	1	6	2 0	Potatoes, cwt. ...	3	0	7 0
Beet, red, doz. ...	0	6	0 0	Rhubarb, doz. ...	1	6	1 9
Brussels Sprouts, sieve...	0	9	1 6	Savoys, tally ...	2	0	3 0
Cabbages, tally ...	3	0	5 0	Scotch Kale, per bushel...	0	9	1 0
Carrots, doz. bnch. ...	2	0	3 0	Seakale, best, doz. ...	10	0	15 0
Cauliflowers, doz. ...	1	6	3 0	" 2nd, doz. ...	6	0	8 0
Celery, bundle ...	1	0	0 0	Shallots, lb. ...	0	2	0 3
Cucumbers, doz. ...	12	0	18 0	Spinach, bush. ...	1	0	1 6
Endive, score ...	1	6	0 0	Tomatoes, English, lb. ...	0	4	0 7
Herbs, bunch ...	0	2	0 0	Turnips, doz. ...	2	0	3 0
Leeks, bunch ...	0	1½	0 0	Turnip tops ...	0	9	1 0
Lettuce, doz. French ...	0	0	1 6				

Average Wholesale Prices.—Cut Flowers.

	s. d.	s. d.		s. d.	s. d.
Asparagus, Fern, bunch	1	6 to 2	6	Lilac, white, bunch, ...	4 0 to 6 0
Carnations, 12 blooms ...	1	0	3 0	Lily of the Valley, 12 bun.	12 0 24 0
Cattleyas, doz....	10	0	18 0	Maidenhair Fern, dozen	
Chrysanthemums, dozen				bunches ...	4 0 8 0
blooms ...	1	0	3 0	Marguerites, doz. bnchs.	2 0 4 0
Daffodils, doz....	15	0	20 0	„ Yellow, doz. bnchs.	2 0 4 0
Eucharis, doz....	5	0	7 6	Mimosas, bnch. ...	1 0 1 6
Gardenias, doz. ...	3	0	5 0	Odontoglossums ...	6 0 8 0
Geranium, scarlet, doz.				Poinsettias, doz. blooms.	8 0 12 0
bunches ...	12	0	18 0	Roses (indoor), doz. ...	2 0 4 0
Hyacinths, doz. ...	4	0	8 0	„ Safrano, doz. ...	1 6 2 0
Lilium lancifolium album	3	0	5 0	„ Tea, white, doz. ...	1 0 3 0
„ rubrum	3	0	5 0	„ Yellow, doz. (Perles)	2 0 4 0
„ various ...	4	0	8 0	Smilax, bunch ...	3 0 5 0

Average Wholesale Prices.—Plants in Pots.

	s. d.	s. d.		s. d.	s. d.
Acers, doz.	12	0 to 24	0	Foliage plants, var., each	1 0 to 5 0
Arbor Vitæ, var., doz. ...	6	0	36 0	Geraniums, scarlet, doz.	6 0 10 0
Aspidistra, doz.	18	0	36 0	" pink, doz. ...	8 0 10 0
Aspidistra, specimen ...	15	0	20 0	Hydrangeas, white, each	2 6 5 0
Azaleas, various, each ...	2	6	5 0	" pink, doz.	12 0 15 6
Boronias, doz.	20	0	24 0	" paniculata, each	1 0 3 0
Cannas, doz.	18	0	0 0	Lilium Harrisii, doz. ...	8 0 18 0
Cròtons, doz.	18	0	30 0	Lycopodiums, doz.	3 0 6 0
Dracæna, var., doz.	12	0	30 0	Marguerite Daisy, doz. ...	8 0 10 0
Dracæna, viridis, doz. ...	9	0	18 0	Mignonette, doz.	8 0 12 0
Erica, various, doz.	8	0	18 0	Myrtles, doz.	6 0 9 0
Euonymus, var., doz.	6	0	18 0	Palms, in var., each	1 0 15 0
Evergreens, var., doz. ...	4	0	18 0	" specimens	21 0 63 0
Ferns, var., doz.	4	0	18 0	Roses, doz.	6 0 18 0
" small, 100	4	0	8 0	Stocks, doz.	8 0 12 0
Ficus elastica, each	1	6	7 6		



Looking Back.

To think that another year has nearly closed; that another century will soon be numbered with the past! Why, it hardly seems more than a week or two since Christmas and the New Year were here. Either we are getting old or time flies as it never did when we were young. We never get in all we want to do; perhaps it is lack of method, perhaps we overrate our abilities, our staying powers—a little of both. The sins of omission are more in evidence than the sins of commission. 1901 is breaking more brightly than 1900. Last Christmas it was not "Peace on earth." We heard the clash of battle. The Angel of Death was abroad—pestilence as well.

as the sword—and there was hardly a household throughout our vast empire that had not relation or friend engaged in the deadly strife. Our Indian dominion was in the throes of famine, and all round the outlook was gloomy.

Well, we have had our lesson; time will prove whether it has been conned in the right spirit or not. The farmer's year never seems very bright now. Occasionally there are gleams of light on the horizon, but alas! they fade too soon. We always seem to be reaping disappointment. We have a tightness of supplies here, we hope for hardening prices—down sweeps the ubiquitous foreigner and fairly drives us out of our own markets. This happens not once or twice, but again and again, and there is no remedy.

The farmer's difficulties began with a very wet February; the ground became perfectly sodden, and the expected winds of March delayed their coming or only blew gentle gales, not enough to insure a good dry seed-bed—and what a good dry seed-bed means only an old farmer can properly tell. Then again, the early part of the summer proving dry, Barley and Oats received a check from which they were never able to recover. A little of the superfluous moisture of March would have been most welcome in May or June.

Wheats throughout the country looked well in winter—in fact, too well, and where not assisted by top-dressing proved defective both in grain and straw. So much corn finished too quickly, and consequently was thin and poor. A dry summer generally means a good Wheat crop, but this season the contrary has been proved. If Wheat has been a disappointing crop Clover and hay were both well got, though the bulk was perhaps hardly as great as usual. The young seeds were abnormal, and never in our experience have we seen seeds better set. They afforded a wonderful "bite" for stock this back end.

Early planted Potatoes had a fine time of it, the weather just coming as it should for their growth; but the later varieties, which are really the farmer's mainstay, suffered much from lack of moisture in the earlier stages—weather that suited the hay harvest checking their growth. Then came the drenching rains and close days of August, which can but have one result where Potatoes are concerned. The sprayed crops demonstrated the value of preventive measures, and we opine that next season the sprayer will have full work in Potato districts. There are to be found some fair crops, one or two very good in the Dunbar district, but the majority are most disappointing. Up-to-Date is a good yield, but Up-to-Date is likely to be displaced in favour of a new variety called British Lion. What short reigns these new Potatoes have! How soon they are superseded! These new variety raisers are always at work; and how different must be the Potato of to-day to that of old Sir Walter. By-the-by, a young Hindoo farm student, the owner of twenty or fifty villages (we are not sure which) is going home to cultivate the Potato on some of his alluvial soil: he says it does well and is in great demand.

The crop of the year is undoubtedly the Turnip, and we shall hear less (for a time) of the cost of the crop in proportion to its value. After all, what a thing it is to have roots enough and to spare. How it lessens the master's anxiety! how it insures the comfort of sheep and beasts! Not only are they plentiful, but of such excellent quality; and although, so far, the season has been mild, we are glad to see many farmers providing for possible severe frosts by pieing. Of course it is an expense, but it pays, even if the weather is not severe. The roots retain their nature better in pies than in the open, and in bare and rabbit infested districts they are safe from inroads. It is hardly possible to estimate what damage hares and rabbits can manage to do; it has to be seen to be believed.

The fall of lambs was not a great one, and consequently the price of sheep has risen. Would that the price of wool would follow suit. The beef trade through the country is better, though we fear some of the heavy fat Christmas weights may be a dead loss with this moist open weather, that is, if it should continue. Twenty-four hours will sometimes work wonders, and this is the season when frost may be expected.

Foot and mouth disease in several parts of the country has given us a scare, but owing to stringent measures, the outbreaks have been quickly checked. Some large ram breeders must have lost heavily, as their sheep were turned back at the port of embarkation. The foreigner would not take the risk of introducing through English rams the dreaded disease. However, "It's an ill wind that blows no one any good," for many farmers were able to procure the best blood at comparatively low prices.

There was a bit of a rush for army remounts early in the season, and the country got rid of some rubbishy horse flesh, but for the breeders and sellers of really tip-top hunters the season was a bad one. All the buyers were hunting the Boer rather than the fox, and we heard of many fields where the ladies predominated at the rate of about forty to seven. Ladies are not valuable horse buyers, nor do they need weight carriers. However, let us hope the warriors are back

again in the shires, which we are sure they will prefer to the African veldt.

The great difficulty the farmer has had to face this year is still unsurmounted, and is likely to be a source of trouble, we fear, far into the new century. What is to be done about labour? It is all very well to talk of labour-saving machines, but there are processes that no machine can accomplish, and at any rate the greatest sceptic will allow we must have men to mind the machines. It has got beyond the mere question of wage, for the wage may be what it will, and the privileges great, yet the men are not tempted back to the land. There is a great future to that man who can suggest a practical remedy—and that man has yet, we fancy, to be born. An old man was speaking to us the other day as to the future of his grandson. On being asked what sort of place the lad wanted, he chuckled and said, "Them sort o' places where they lets all the work out." Those places are popular and the candidates many.

We are pretty sure there is not such an honest love of work as there used to be. Every class is crying out for more holiday, and often those who need least get most. Well, the farmer's life is full of lights and shadows. He needs a great measure of faith and patience. He must be a man of practical experience as well as liberal education; he must have capital and judgment, and a knowledge of home and foreign markets, and then, when all is said and done, he will only just manage to keep his head above water. We wonder what our new Minister of Agriculture will do? He has plenty of scope; has he the power and inclination? Our dairy interest is threatened. We do not mean the butter supply, but milk is being imported in large and, we fear, growing quantities. It comes to our ports without let or hindrance, presumably rich in preservatives, and from dairies that are under no sanitary supervision. The English milk seller is watched and surrounded as though his sole aim was to supply tainted milk. The foreigner sends exactly what he likes, and we, or rather the authorities, are absolutely inactive.

We all have been much agitated lately as to what is pure beer, and we all agree we had rather take our tonics direct from our medical man than take it as the brewer lists in our beer. The question of "pure" beer has been working for some time, and we only hope something drastic will be the outcome. We want not only to be free from arsenic, but also we want to know what we are drinking. We can take or leave it then as we choose. We shall have more to say on this subject in the future. We should like to prophesy a bright future for the English farmer, but alas! the outlook will not justify any such hope. We can but do our best, and leave the result. It is just possible that by new methods our sons may be able to succeed where we have failed, and prosperity may again follow the plough.

Work on the Home Farm.

Writing on the eve of Christmas, we find the weather conditions anything but Christmas like. Though we have had no heavy rainfall lately, there have been several drizzly days, and it is now as mild and muggy as ever. The presence of water in the cellar shows that the soil is now thoroughly saturated, and the water supply of 1901 must be assured.

A dry frosty time would be welcome in the open yards, for the cattle are using quite as much bedding as can be spared. It is really surprising how little really good straw there is in many of this season's stacks, Barley stacks particularly. As a farmer remarked to us, "Barley straw nowadays seems to be mostly pulse." Covered yards will give a good return for the cost by economising straw, but even covered yards require a fair amount of bedding. For them the straw will go further if cut up.

The chief care of the anxious farmer just now is to get a fair day's work out of his horses; the days are so short, and it is hardly possible to see to plough before eight, and it is dark again at four. The single yoke from eight until two does not enable a ploughman to complete a very large piece of work, and by the time he has got home, and fed his horses and himself, darkness will be setting in.

Some farmers who are not far from a station do all their delivery of grain and Potatoes, in the afternoons; the men plough until noon, return home to dine and bait the horses, and are then able to deliver a load of produce to rails while the light lasts, though they may have to make the return journey in darkness, and it is in this last point that the saving lies. Perhaps the men will be declining to drive in the dark; they may do so, for they are mighty independent.

We have not heard of any poisoning by beer in the villages, though the licensed houses are nearly all in the hands of the large brewers, and strictly tied, except for bottled ales, the occupier generally having special permission to sell Bass in bottles, but not on draught. This shows that there is still a demand for really good beer. Farmers have almost given up brewing for themselves. Would they begin again if they were allowed to retail beer brewed from their own produce, paying duty of course? This would be one way of providing a supply of pure malt liquor.

